

Sooty Bark Disease (*Cryptostroma corticale*)

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Sooty Bark Disease (SBD) predominately affects maple trees, most notably sycamore (*Acer pseudoplatanus*) which is one of the most common urban trees in Europe. SBD develops on the host tree from the airborne mould fungus *Cryptostroma corticale*, producing a white-rotting effect on infected wood which can lead to death of the whole tree. The fungus produces spores which can have an adverse effect on human health leading to the need for delicate management operations in order to prevent excessive spore-spreading. Emergence of the pathogen appears to be linked to prolonged temperatures exceeding 25°C, and drought. There has been a significant increase in detection reporting since 2000, a trend which is anticipated to continue in correlation with climate warming.

Symptoms and Biology:

Isolated dark spots appear on the trunk, in the first instance, as spores break through the outer periderm. Sap flow is later disrupted by the development of fungal stromata under the bark along with hyphal growth in the sapwood itself causing white rot, disrupting the transmission of water and assimilates and making the wood fragile. This may result in noticeable signs of crown dieback and necrotic and/or loose patches of bark.

Overall decline is then observed in infected trees including wilting and dieback, followed by peeling bark and shedding branches which expose the thick layers of brown-black spores beneath.

Further information on identification can be found here: [Tree Health Diagnostic and Advisory Service - Forest Research](#)

Maybe Confused with: *Eutypa acharii* / *Eutypa maura*



Colonises dead wood and therefore found on dead Sycamore branches and trees rather than being the cause of death like SBD.

Figure 2 – *Eutypa* spp. Image credit: Fungi of Great Britain and Ireland
<https://fungi.myspecies.info/all-fungi/eutypa-acharii>

Summary: Bark disease caused by the white-rotting fungus *Cryptostroma corticale*, which disrupts water transmission leading to crown dieback and necrotic bark.

Common Names: Sooty Bark Disease (SBD)

Host: *Acer* spp., predominantly *A. pseudoplatanus*, and also *Aesculus hippocastanum* and *Cornus nuttalli*. Several other species have been identified as potentially susceptible including *Euonymus europaeus*, *Populus tacamahaca x trichocarpa*, *Salix viminalis*, *Viburnum opulus*, and *Carya* and *Tilia* species.



Figure 1 – Necrotic bark and fungal stromata
Image credit: Blue Jenkins

Public Health Implications:

Cryptostroma corticale can also have a pathogenic effect on humans, known as maple bark disease (MDP), a form of hypersensitivity pneumonitis which can cause COPD or allergic asthma-like symptoms, or lung fibrosis/failure in extreme cases. This generally results from continued exposure and subsequently commonly affects those with occupation contact with SBD, such as foresters and arborists. Research shows that most patients recover after removing antigen exposure, and that there is little to no risk to healthy individuals with low exposure to SBD such as dog-walkers, passers-by, etc.

People who have intensive and repeated contact with infected trees and wood are at the most risk, along with immunosuppressed people or those with pre-existing health conditions. As such, contractors handling infected material are required to wear appropriate PPE and members of the public must also be protected by having areas of infected timber screened off and removed.



Figure 3 – Necrotic bark and dark spore layer
Image credit: Blue Jenkins

Management Recommendations:

Susceptible trees should be inspected regularly, particularly after prolonged hot and dry periods. Suspect cases should be confirmed through reporting to Tree Alert/laboratory analysis. When working with/removing infected timber:

- Appropriate Personal Protective Equipment should be worn to reduce spore inhalation
- Ideally work should be carried out when the weather is damp to reduce spore dispersal
- Public access during works should be restricted
- In a forestry situation, mechanical harvesting is advised
- Infected logs should not be kept for use as firewood.

Recording Information:

In the UK, suspected cases of SBD should be reported to Forest Research via the TreeAlert platform:
<https://www.forestresearch.gov.uk/tools-and-resources/tree-alert/>

Further Reading:

- [Sooty bark disease \(*Cryptostroma corticale*\) - Forest Research](#)
- [Sooty bark disease of maples: the risk for hypersensitivity pneumonitis by fungal spores not only for woodman | Journal of Occupational Medicine and Toxicology](#)