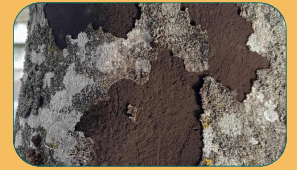


Sooty bark disease (*Cryptostroma corticale*)



Introduction

Sooty bark disease (SBD) is caused by the fungus *Cryptostroma corticale*. The fungus was first described in North America; but was then introduced into Europe, with the first documented case in the UK in 1945. Further observations have been recorded in Central and Western Europe since the 2000s [[see distribution](#)].

The disease leads to dieback and ultimately to the death of maples (*Acer* spp.), primarily affecting sycamores (*Acer pseudoplatanus*). Damage caused by the disease is associated with raised summer temperatures and drought and therefore, there are increasing concerns due recent hot dry summers and future climate change impacts. In addition to the plant health problems, spores of *C. corticale* can also cause significant human health problems in some individuals. Although uncommon, exposure to large number of spores can cause maple bark stripper's disease, a form of hypersensitivity pneumonitis.

SBD should not be confused with 'sooty mould', which is caused by saprotrophic (non-pathogenic) growth of fungi colonising sticky exudates or 'honeydew' due to insect feeding on foliage.

Host

Acer spp. – with *Acer pseudoplatanus* and *Acer macrophyllum* listed by EPPO as major hosts. The fungus has been isolated from several other living broadleaf tree species as well as dead wood. However, pathogenicity of these isolates and their ability to cause disease has not been found.

Biology

The fungus most likely infects plants through fresh wounds, which may cause wilting within a few weeks. The mycelium then progressively colonizes the wood into the heartwood, without any further external symptoms. Colonization occurs mainly longitudinally, via the xylem and later the phloem, with optimal temperatures and drought stress accelerating the process. In culture, the growth rates of *C. corticale* gradually increase from 10°C to 25°C, where it reaches its maximum. Beyond 25°C, growth quickly slows down, stopping at 35°C.

Whilst the mycelium can rapidly colonize the host sapwood radially, its spread within the bark is distinctly slower. The fungus is considered an opportunistic latent pathogen. During its latent endophytic state it can grow longitudinally, but heat and drought stress of the host can trigger its pathogenic and saprophytic phases facilitating sooty bark disease symptoms to appear in the bark. Upon reaching the outer wood layers, the fungus kills the cambium and invades the bark. It then starts to form fungal fruiting bodies, known as stroma, which produce huge numbers of dark powdery spores. These spores are released when the bark splits and falls off.

Symptoms

For details of the symptoms, scan or click on the QR code to access the accompanying poster.



More information

- EPPO Global Database: <https://gd.eppo.int/taxon/CRPSCO>
- University of Bath: <https://core.ac.uk/download/pdf/77014537.pdf>
- Front Public Health: <https://doi.org/10.3389/fpubh.2022.973686>
- Forests: <https://doi.org/10.3390/f12030377>
- Forest Pathology: <https://forestpathology.org/canker/sooty-bark-maple/>
- WSU Puyallup Research & Extension Center: <https://ppo.puyallup.wsu.edu/sbd/>

Acknowledgements

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