

Bark beetles *Scolytus mali* in Defford, Worcestershire.

Wendy Carter

In June 2018 my landlord asked me “*What’s wrong with my Sorbus tree – it looks like it’s dying?*” On closer inspection we discovered a large fungus growing at the base of the trunk and many of the limbs had cracks running their entire lengths. It seemed that the source of the problem had been discovered and my landlord muttered something about cutting it down when he next got a chance

When I took another look at the tree whilst pottering around in the garden the following weekend, however, I noticed tens of what I thought were exit holes (01) before realising that the trunk was covered with small beetles (02, 03, 04). They weren’t exiting the tree – they were boring into it.



01. Apple Bark beetle *Scolytus mali* holes in Sorbus bark. Wendy Carter.



02. Apple Bark beetle *Scolytus mali*. Wendy Carter



03. Apple Bark beetles *Scolytus mali*. Wendy Carter.



04. Apple Bark beetles *Scolytus mali*. Wendy Carter.

I watched them for a little while before running inside to get my camera to make sure I’d got a record of their behaviour. Some beetles were boring into the tree, some were watching the borers, others were wandering over the tree and yet others were mating. This was taking place all over the tree at about 5p.m. – when I returned to look at about 8p.m., there were just a few beetles left. There was almost no activity the following day.

It took quite some time to discover that the beetles were of the genus *Scolytus* and my first (ultimately incorrect) conclusion was that they were *Scolytus scolytus*, the large elm beetle. However, if this were the case, why would they be boring into a *Sorbus*? And did the fungus or the beetles weaken the tree in the first instance?

Thanks to Paul Whitehead for identifying the beetles as *Scolytus mali*, the large fruit bark beetle, the tree as *Sorbus aria* cv.

'Lutescens', a whitebeam, and also for confirming that it was the fungus that weakened the tree, allowing the beetles to attack it.

S. mali is native and widespread across Europe and is a specialist in colonising dying and weakened limbs of its host (*Sorbus* has been recorded as such although, as its name suggests, it more frequently attacks fruit, in particular apple, trees). It typically attacks material up to 38cm in diameter – the *Sorbus* in question is well within this size.

The behaviour I observed was usual for this monogamous species of beetle (Smith & Cognato 2014). It was the females that were excavating and the males were wandering across the bark in search of females (03). Mating occurs at the entrance to the tunnel with the male remaining on the bark and the female in the tunnel entrance. The tunnels are excavated at a slight oblique angle and consist of a nuptial chamber and an egg gallery with multiple niches. Females can lay up to 100 eggs – pupation occurs within the sapwood and broods overwinter as larvae or adults. The males remain to help clear frass from the gallery before leaving, leaving the female to die in the entrance tunnel, the rear of her abdomen pointing outwards.

Perhaps in spring I'll be lucky enough to chance on the emergence!

A quick look at the tree before writing this piece in January 2019 revealed hundreds of holes – I gave up counting shortly after 200 when I realised that, unlike the beetles themselves, I hadn't even scratched the surface. The garden's resident great spotted woodpecker also seems to have shown an interest in the beetles – several areas of the trunk have been stripped of the bark (05). In a few of the intact holes, the remains of the dead female can be seen.

The tree, for now, is still standing. When it's brought down (before it falls down), however, I hope to find some of the fan-shaped pattern of larval galleries.



05. Apple Bark beetle *Scolytus mali* predated by Great-spotted woodpecker. Wendy Carter

Reference

Smith, S M. & Cognato, A. I. 2014. A taxonomic monograph of Nearctic *Scolytus* Geoffroy (*Coleoptera*, *Curculionidae*, *Scolytinae*). Published October 2014 at www.ncbi.nlm.nih.gov/pmc/articles/PMC4233402/

Images

01. Apple Bark beetle *Scolytus mali* holes in *Sorbus* bark. Wendy Carter.

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