The Oak Leaf Phylloxera *Phylloxera glabra* (von Heyden, 1837)

ROSEMARY WINNALL WITH CAROL TAYLOR

On the 14th July 2021 our Plant Pathogen Group set off from Blackstone Riverside car park on the west side of the River Severn to walk up to Ribbesford churchyard and the woodland beyond. We were looking for rusts and smuts and this involved moving slowly, looking carefully at plants, especially those that looked stressed, showed discolouration or were growing abnormally.

On the track leading up to Ribbesford Church one of us, Carol Taylor, paused at a small low clump of oak coppice regrowth (OSGR SO 788 739) growing alongside the south-facing hedge. Some of the leaves had yellow spotting on their upper-sides and as she turned one over, we got a surprise.

There were no hymenopteran galls as we'd expected, but something we'd not seen before. Examining the leaves with hand lenses we observed tiny orange pear-shaped creatures inside small concentric circles of what looked like eggs. We could not even decide what sort of animals they were but watched entranced as they continued to lay eggs as we discussed identification features. We then spotted some ladybird larvae and these were feasting on the eggs leaving very little in their wake. Photographs were taken and only later in the day, after some internet searching, did we manage to find that the small 'orange pears' were members of the Family Phylloxeridae, close relatives of aphids and psyllids. There still appears to be some confusion about the taxonomy, but thanks to the Influentialpoints website, we were eventually able to give them a species name of *Phylloxera glabra*. As the adults measure between 0.7mm and 0.85mm they are not easy to study. Their relative is the Grape Phylloxera *Daktulosphaira vitifoliae* that devastated the wine industry in the 19th century.
See: https://influentialpoints.com/Gallery/Phylloxera_glabra_Oak_leaf_phylloxera.htm.

On the 1st September 2021 Rosemary Winnall found another colony (at GR SO 800 743), about 1 kilometre to the east and on the other side of the river alongside the track near Blackstone leading to Devil's Spittleful. The short coppice regrowth on the south-facing bank was similar to that at the first site and yellow necrotic spots on the leaves were again conspicuous, but this time winged adults were present. Females of this next sexual generation lay their eggs in crevices on the bark of oaks, generally Pedunculate Oak *Quercus robur*, where they overwinter. When they hatch in the spring the nymphs (all parthenogenetic females) migrate to oak leaves where they feed until they become mature and then the fascinating circular egg laying begins providing one of the extraordinary patterns in nature. On this occasion a number of hoverfly eggs were observed amongst the colony and one hoverfly larvae was seen feeding on the eggs, later identified as a *Paragus* species.

We wish to acknowledge the help of Bob Dransfield and Bob Brightwell (Influentialpoints website) who confirmed the identification of *Phylloxera glabra*; Geoff Wilkinson (UK Hoverflies Larval Group) who kindly identified the hoverfly larva to genus, and Gary Golding (Ladybirds of the UK Facebook page) who agreed that the ladybird larva was a *Scymnus* and likely to be *S. auritus* but could not confirm. We shall need to find more *Phylloxera* colonies next year and breed through any associated ladybird larvae to be sure of the species.

Upperside of colonised oak leaf, Ribbesford, 14/7/21 Rosemary Winnall

Pedunculate Oak coppice regrowth, Ribbesford, 14/7/21 Rosemary Winnall

Blackstone track site with short oak coppice regrowth, 1/9/21 Rosemary Winnall

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Phylloxera glabra colony, Ribbesford 14/7/2021 Rosemary Winnall

Scymnus Ladybird larva, Ribbesford 14/7/2021 Rosemary Winnall

Winged adult and apterous female, Blackstone 1/9/2021 Rosemary Winnall

Hoverfly larva *Paragus sp* Blackstone 1/9/2021 Rosemary Winnall

Hoverfly eggs, Blackstone 1/9/2021 Rosemary Winnall