

## EMERGING EFFECTS OF THE USUTU VIRUS ON LONDON'S BLACKBIRD POPULATION

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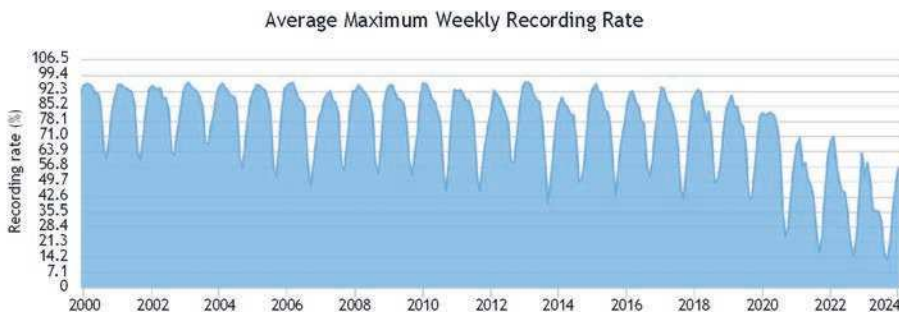
One of the effects of climate change is the spread of organisms into new areas and habitats, and we have seen this widely among birds in recent years, with several species breeding in increased numbers or for the first time in Britain. But what is true for birds is true for other organisms too, including some that might be less welcome, such as mosquitoes and, even less welcome, the diseases they spread.

One such disease is the Usutu virus, which is known to infect birds. Usutu was first recorded in South Africa in the 1950s but was not recorded in European bird populations until 1996 (in Italy). It belongs to group of viruses called flaviviruses (which includes the virus that causes yellow fever) and is of particular interest due to it being zoonotic. This means that not only can it infect birds but, like many others in the group, it can also infect humans, resulting in deadly consequences (although so far, thankfully, only two deaths have been reported globally). While the exact reasons for its spread may be unclear, its impact is certainly not, with substantial declines reported in Blackbird populations where it occurs. Corvids and owls can also be hosts and succumb to its effects.

In Britain, the disease was first detected in 2020 at London Zoo and was the first mosquito-borne zoonotic virus to emerge in one of the zoo's animals. In that year, five dead Blackbirds (and one House Sparrow) tested positive for the virus. Subsequent testing of mosquitoes (by analysing DNA in their blood meal) found that Blackbirds were the most frequently bitten wild bird species (although Starling, Robin and Blue Tit were also recorded). Furthermore, analysis of reports submitted to the Garden Wildlife Health scheme, run by ZSL in partnership with the British Trust for Ornithology (BTO) and others, found a distinct cluster of reported mortality in Blackbirds centred near west London, suggesting the virus was present more widely.

Usutu virus has been recorded subsequently in each of the following years, leading to

**Figure 1:** Graph showing the recording rate of Blackbirds in London between 2000 and 2024. Thank you to the BTO for their permission to publish this graph. For further information about Garden BirdWatch, visit: [www/bto.org/gbw](http://www/bto.org/gbw).



concerns that it has become established in the population and is indeed spreading. This is clearly seen in the BTO's Garden BirdWatch survey (Fig. 1). In London, as elsewhere, the proportion of gardens reporting Blackbirds is high through the winter and spring, before tailing off in the late summer to reach a low point in the autumn. Whereas a few years ago, around 95% of gardens in London in winter would be reporting Blackbirds, this figure decreased to below 70% in the winter of 2022 and to 15% for the autumn of 2022 (down from 50-60% previously).

A paper reporting on the Usutu outbreak in UK birdlife was also recently published in *Scientific Reports* (Lawson *et al.*, 2022). Although their findings did not show evidence of pathology or clinical signs that would be consistent with Usutu virus infection, based on the combined circumstantial evidence of the clustering of reported disease near the original outbreak at London Zoo, the greatly reduced number of Blackbirds reported in London gardens in 2022 and the presence of Usutu virus RNA in the local mosquitoes, the authors suggested that the decline in number of Blackbirds in London gardens was disease-mediated, with the inference that the virus was the causal agent.

Following on from this first detection in Britain, a group of organisations (the Animal & Plant Health Agency, the BTO, the UK Health Security Agency and the Institute of Zoology) came together to initiate a project to better understand the link between the virus, its mosquito carriers, and the birds it affects. You can follow their progress on the Vector-Borne RADAR project website at: <https://www.vb-radar.com/>.

### References

LAWSON, B. *et al.*, 2022. Combining host and vector data informs emergence and potential impact of an Usutu virus outbreak in UK wild birds. *Scientific Reports* 12: 10298.

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[www.lnhs.org.uk](http://www.lnhs.org.uk)

### EVENING BLACKBIRDS AT LLANDDEUSSANT

Somewhere far off  
a blackbird sings.

The sun is sinking.  
Pure light  
pales the hills  
a lucid silver-green.  
Lean shadows ease  
across the fields.

Far off  
a blackbird sings,  
finely dappling  
the breathless air.  
Here, another  
sits half-hidden,  
sits and listens,  
speaks a shy phrase,  
sits and listens,  
finds some more to say,  
tweaks a feather,  
wipes his beak,  
whistles a few last words,  
falls darkly silent.

The sun has gone.  
Night steals blind  
upon the land.

But still, far off  
a blackbird sings.

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