

## Updated Outbreak Assessment #2

# West Nile virus in Southern Europe and Germany

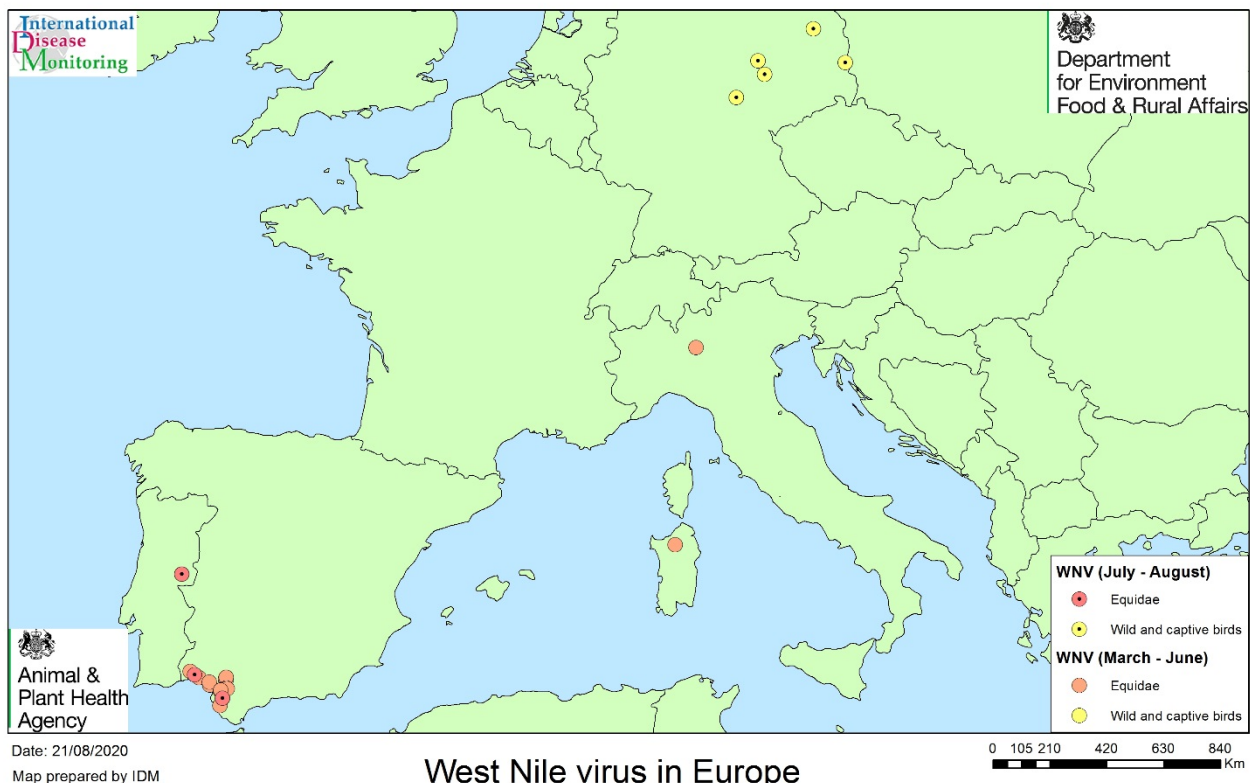
21<sup>st</sup> August 2020

Ref: VITT/1200 WNV in Europe

## Disease Report

Since the beginning of the 2020 West Nile virus (WNV) transmission season, the southern part of the Iberian Peninsula has been experiencing a number of outbreaks of WNV infection in horses particularly in south-west Spain. Elsewhere in Southern Europe there were also single outbreaks in horses in Portugal, northern Italy and Sardinia. Since our last report in July

([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/907027/wnv-germany-poa.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/907027/wnv-germany-poa.pdf)), northern Germany has reported three more cases of WNV in birds, although no outbreaks in horses this year to date.



## Situation Assessment

**Spain** reported its first outbreak of WNV this year in horses on 12 August. It was estimated that the date of first infection was 7 July. The outbreak was in Cadiz in south-west Spain. Since then a further 15 outbreaks in horses have been reported in this area around Huelva and Sevilla and of these, nine have been in Sevilla. The area encompasses the delta of the Guadalquivir River and is a haven for water birds.

**Portugal** has reported a single outbreak of WNV which was confirmed at the end of July with one of four horses affected and showing clinical signs (subsequently died). The horse was found positive by the IgM ELISA test while the other three horses did not show any clinical signs.

**Italy** has reported an outbreak in horses on the island of Sardinia in early August, and also one in late July on the mainland in the north in Verbano-Cusio-Ossala, a region not affected in previous seasons.

In **Germany**, it is believed that WNV was most likely introduced in a single introduction event from the Czech Republic during mid-2016 to north-east Germany where autochthonous transmission has since occurred (Ziegler et al. 2019). In our previous report, it was anticipated that cases of WNV in raptors and owls would be reported in the next few months in this region of Germany where in mid-July two cases in passerines (one wild bird, one captive crow species) were reported. Thus, it is not surprising that an unidentified captive owl (*Strigidae*) was reported infected on 13 July at a zoo in Salzlandkreis, Sachsen-Anhalt (northern Germany) near to the zoo with the captive crow previously reported in Halle (Saale), Sachsen-Anhalt. A second unidentified owl (*Strigidae*) infected with WNV was reported at a zoo in Thuringen, in central Germany, on 20 July. WNV was also reported in two passerines of an unidentified waxwing species (*Bombycillidae*) in a group of four, presumably captive, birds in Brandenburg on the Polish border on 11 August.

WNV fever is a zoonosis and one of the vector-borne viral diseases causing equine encephalitis. The virus circulates between wild birds via ornithophilic mosquitoes (most commonly *Culex pipiens*) in Southern and Eastern Europe, North America, East and West Africa (Medlock et al. 2018). Infections in horses and humans are rare accidental spill-over events, through the bite of a bridging species of mosquito, such as *Culex modestus* and *Cx pipiens molestus* or very rarely through surgical interventions such as blood transfusion, organ transplant or injection of blood products.

Indigenous British mosquitoes are capable of transmitting WNV (Phipps *et al*, 2018). In addition, recent collaborative studies led by APHA support the introduction (possibly via cargo ships entering the River Thames Estuary) and subsequent spread of populations of *Culex modestus* in southern England (Hernandez-Triana et al. 2019). The spread of the mosquitoes could have been due to either short distance movements of the mosquitoes or

transfer of mosquito eggs on the feet of wading birds (Medlock et al. 2018). Mosquito activity declines from October and WNV transmission would not be expected to occur in autumn and winter.

It is likely that WNV could enter the UK through WNV-infected wild birds from Europe from time to time. However, the timing may restrict the number of WNV transmission events within the UK because there needs to be synchrony between WNV entering the UK in birds and a high mosquito abundance for onward transmission to UK birds. For this reason, the risk of WNV incursion into the UK differs for each of the seasons (see previous POA for details for each season). Currently, for the summer months the risk to the UK horses of WNV incursion is assessed to be **negligible**. This is because very few wild birds migrate from north-east/central Europe or from Spain/France to the UK in the summer months when both mosquito numbers peak and the WNV vector transmission season has started (ECDC 2019).

The three new cases of WNV in captive birds documented here in Germany do not change the risk to the UK. However, we will review the cases of WNV in wild birds in northern Germany as the autumn progresses.

WNV is known to circulate locally in water birds in southern Spain. In one study, high antibody prevalence was found in common coots (*Fulica atra*) on the Donana National Park in October 2003 (Figuerola et al. 2007). WNV was first reported in wild birds in the Carmague in southern France during the 1960s with 11% of common magpies (*Pica pica*) seropositive in a study in 2005 (Jourdain et al. 2008). Portugal reported three outbreaks in horses in the autumn of 2019. Spain reported 6 outbreaks in horses in the south-west in the second half of 2019, with estimated first dates of infection from early August to late October 2019. However, the ongoing outbreak in horses in south-west Spain suggests increased transmission between mosquitoes and water birds in this region of Spain, where there is one of the major wetland areas of Europe (Donana National Park). During spring, large numbers of migrating birds move north through this part of Spain from Africa via the Strait of Gibraltar into northern Europe. However, at this time of year those birds will be returning south through Spain and very few will come into the UK from Spain. Thus the risk of entry of WNV from birds in southern Spain is currently **negligible**.

## Conclusion

Although there may currently be an increase in WNV prevalence in wild birds (and mosquitoes) in the Iberian Peninsula, birds from Spain are unlikely to enter the UK at this time of year and need not be considered until the spring when many species migrate northwards. The current risk (summer 2020) of autochthonous WNV transmission to horses in the UK as a result of WNV in birds in southern Spain and in north-east Germany is still **negligible**, but there is a level of uncertainty around the current WNV situation in Germany and wild bird surveillance across Europe has been significantly impacted by

COVID-19 with those personnel usually contracted to collect and sample wild birds and investigate die-offs, impeded by lock down and redirected resources. This risk will need to be reviewed for early autumn in the light of any further northward or westward expansion in range of WNV in wild birds in Germany. The human-assisted movement of WNV-infected adult stage mosquitos (e.g. in containers, vehicles and aircraft) from Germany or from southern Europe could occur and should be considered if information on WNV prevalence in mosquitoes in southern Europe becomes available, although with the current COVID-19 restrictions on travel to the UK, there may be fewer flights and vehicle journeys from Spain.

The majority of infected horses will not show any clinical signs, but some horses may develop a fever, and rarely, central nervous signs, such as tremors, staggering and death. WNV is a notifiable disease in horses and suspicion of disease must be reported to APHA. Horses transported from southern Spain or Portugal could be infected. The movement of WNV-infected horses (and humans) would not be a risk pathway for establishing disease in the UK in terms of mosquito transmission, although it should be emphasised that disease in humans can result from exposure to equine tissues at necropsy (Venter et al. 2010). Similarly, it is noteworthy that the veterinarian who performed the necropsy of a captive, WNV-infected great grey owl (*Strix nebulosa*) in Germany in 2018, developed flu-like symptoms 3 days after and detectable specific WNV-IgM antibodies one month after the necropsy (see Ziegler et al. 2019).

We would like to remind veterinarians and operators of equine establishments of the requirement to report suspect disease to APHA and that there is a “testing to exclude” programme to rule out infection in horses showing clinical signs where there is a low suspicion of WNV as a differential diagnosis (<http://apha.defra.gov.uk/vet-gateway/tte/wnv.htm>). Veterinarians should discuss this option with APHA. (<https://www.gov.uk/government/organisations/animal-and-plant-health-agency/about/access-and-opening> ).

We will continue to monitor the situation.

## Authors

Dr Paul Gale

Tony Pacey

Dr Francesca Gauntlett

Josef Bowen

Charlotte Coxon

Dr Lorraine McElhinney

Alastair George

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Any enquiries regarding this publication should be sent to us at [iadm@apha.gsi.gov.uk](mailto:iadm@apha.gsi.gov.uk)