

# Pool party? West Nile virus neuroinvasive disease in a captive common seal (*Phoca vitulina*)

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In Germany, the first West Nile virus (WNV) infections were discovered in birds and horses in 2018 and since continue to be registered with distinct predominance in Eastern Germany. Additionally, 48 human infections were recorded between 2019/2022. In 2020 evidence was found that WNV is established in local mosquito populations (*Culex pipiens* complex).

While a number of wildlife bird species carry and succumb to WNV, so far - beside horses - no other mammal species was diagnosed with WNV infection in Germany.

In August 2022 a male adult common seal (*Phoca vitulina*) from a zoo had loss of appetite. Seven days after onset the animal showed mild tremor and regurgitation. Unexpectedly, the following morning the seal was found dead outside its pool. Necropsy of the carcass did not reveal obvious macroscopic pathological changes. However, histopathology showed generalised mild to moderate lymphoplasmacytic infiltrations of brain and cervical spinal cord associated with neuronal destruction and mild meningitis. These findings, clinical history and geographic location prompted the suspicion of WNV infection. Subsequent nucleic acid molecular investigations by RTqPCR of various organ tissues indeed confirmed WNV infection in this animal, while avian influenza virus was not found.

As WNV infection can lead to fatal neuroinvasive disease, in regions of autochthone infections WNV should be considered as a possible causative agent in neurologically conspicuous animal or human patients.

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## Professional Status of the Speaker

Senior Scientist

## Junior Scientist Status

No, I am not a Junior Scientist.

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