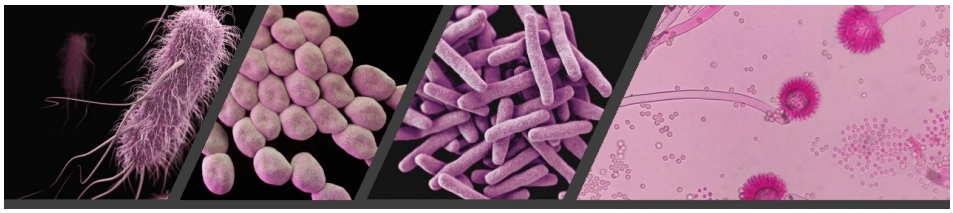

Contribution ID: **100** Type: **Oral presentation**

Coronavirus detection in British Red Foxes (Vulpes vulpes)

Thursday 11 September 2025 12:30 (15 minutes)

Britain has eight species of carnivorous wild mammal which, in their international populations, are known to be susceptible to a range of Alphacoronaviruses and Betacoronaviruses (CoV's).
Previous work in 2020-2021 to determine if SARS-CoV-2 was present in UK wildlife demonstrated no detection of this pandemic virus. However, a novel mustelid coronavirus, a previously uncharacterised stoat Minacovirus, was discovered. Further to this, in 2022 a highly divergent coronavirus (*MelesCoV*) in Italian badgers (*Meles meles*) was reported, that to date, has not been found in UK animals.
Over 500 carnivore samples have been screened, the sample type dependant on the requirements of the sample provider (samples including faecal and tissue (lung and enteric lymph node) samples, as well as oronasal and rectal swabs). Samples were preserved with RNAlater. RNA was extracted using ThermoFisher's Kingfisher Apex and screened for CoV's using pan-coronavirus primers.
PCR positive results have been found in a Red Fox (*Vulpes vulpes*) rectal swab. Sanger and Illumina sequencing were conducted, and downstream bioinformatic pipelines identified the sequence as a coronavirus similar to other canid and canine viruses.
Britain's wild carnivores play an important role in ecosystems, with red foxes inhabiting both wild and urban habitats. Determining the presence of coronaviruses within these animals is critical to our preparedness for the emergence and detection of novel viruses.

Keywords

Coronavirus, Wildlife, Bioinformatics, Surveillance

Registration ID

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Professional Status of the submitter, who is also the speaker

PhD Student

Author: PARKER, Charlotte (University of Nottingham)

Co-authors: Prof. BENNETT, Malcolm (University of Nottingham); Prof. TARLINTON, Rachael (University of Nottingham)

Presenter: PARKER, Charlotte (University of Nottingham)

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