SCIENTIFIC ABSTRACTS

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test tubes and cotton-tipped swabs, moistened with sterilized distilled water, were used to collect samples. *A. felis* (*n* = 4) and *A. fumigatus* (*n* = 6) was grown on Potato Dextrose Agar (PDA) for 3-5 days. Afterwards, a mycelial 4 mm-disk was placed in the center of a PDA Petri dish with 0.005% of active principle. The radial growth of colonies was measured along two diameters and the average of these two measurements was considered as the diameter of the fungal colony. Growth zones were measured in the third, fifth and seventh day, after incubation at 28 °C, to determine antifungal activity. The colony growth was compared to the control, converting the difference in percentage of inhibition. The average percentage of inhibition for *A. felis* was 83.4%, and for *Aspergillus fumigatus*, it was 80.7%. No differences were observed in the mean inhibition percentages between *A. felis* and *A. fumigatus* (*p* = 0.326). Research into antifungal activity is essential for reducing the spread of potentially dangerous fungi for human and animal health.

(P26) DETECTING CORONAVIRUSES IN UK CARNIVORES

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Spillover events of SARS-CoV-2 into wildlife have occurred across the world, notably in farmed mink (*Neovison vison*) and North American white-tailed deer (*Odocoileus virginianus*). Whilst a 2021 BBSRC funded investigation into the presence of SARS-CoV-2 in UK wildlife demonstrated no detection of this virus in UK wildlife, another novel coronavirus was detected - a previously uncharacterised stoat Minacovirus.

Further to this, a highly divergent coronavirus in Italian badgers (*Meles meles*) has been reported. Screening of archived and new UK badger samples is underway to determine if this coronavirus is present in the UK population. Samples have been PCR tested using broader generic coronavirus primers that target the RdRp region of the genome which is highly conserved amongst coronaviruses. No positive samples have been detected thus far; however, any positive samples will be subjected to Illumina sequencing to retrieve the full-length virus sequence of the new badger coronavirus (only partial sequence is currently available).

The virus sequences will be characterised using coronaSPAdes and other bioinformatic tools to identify any contigs of interest. The virus will then then be assembled in Geneious prime and phylogenetically categorised in IQ-Tree.

Developing our awareness of the diversity of existing wildlife coronaviruses in the UK, particularly in wild carnivores will form the starting point for an investigation of pathology in the wildlife hosts. The potential for cross species transmission or recombination of these highly divergent viruses in these wild UK predators will also be understood.

(P27) REPLICATION KINETICS OF BOVINE GAMMAHERPESVIRUS 4 IN THE PRESENCE OF PLATELET RICH PLASMA IN VITRO

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Diseases of the reproductive tract are a frequent problem in dairy herds. Herpesviruses cause several syndromes including uterine diseases. The role of bovine gammaherpesvirus 4 (BoGHV-4) in the development of endometritis has not been clearly described. Platelet-rich plasma (PRP) is an emerging therapeutic in tissue regeneration due to its enrichment in growth factors with mitogenic and anti-inflammatory potential. This study analysed the replication kinetics of BoGHV-4 in the presence of 5% and

10% PRP, compared to 10% fetal bovine serum. For this, Madin-Darby Bovine Kidney (MDBK) and primary culture-derived endometrial bovine (BEC) cells and the field BoGHV4 strain 07/435 were used. Supernatants and cells were collected at 12, 24, and 48 hours post infection (hpi) for virus titration using the endpoint titration method. A factorial model, as a function of time and treatment, testing hypotheses of absence of interaction was used. Viral titers (VT) were fitted to polynomial regression models. The extracellular VT in BEC cells were not affected by the treatment at any time-points. However, intracellular titers at 24 hpi were significantly higher with 5% PRP and decreased with 10% PRP. At 72 hpi, the VT with PRP significantly decreased compared to earlier time-points. Extracellular BoGHV-4 titers in MDBK, were significantly higher with 5%PRP at all times. Conversely, with 10%PRP, the VT decreased at 48 hpi. However, a significant increase was observed at 72 hpi. This study demonstrates that PRP has strong effects on the replication kinetics of BoGHV4, being highly dependent on the host cell.

(P28) ANALYSIS OF THE INFLAMMATORY RESPONSE INDUCED BY BOVINE GAMMAHERPESVIRUS -4- LPS IN PRIMARY CULTURE CELLS OF BOVINE ENDOMETRIUM

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Most bovine uterine diseases are associated with bacterial infections. However, when the involvement of viruses has been studied, Bovine Gammaherpesvirus 4 (BoGHV-4) has consistently been associated with postpartum endometritis in cattle. BoGHV-4 infection stimulates the secretion of Prostaglandin E (PGE) in endometrial cells, which is a mediator of the inflammatory response in bacterial infections and plays an important role in the reactivation followed by lytic replication of BoGHV-4. In this study, we analyzed CXCL-8 and Interferon-gamma (IFN-γ) because the stimulation of Toll-like receptor 4 (TLR4) by lipopolysaccharide (LPS) induces the release of cytokines necessary to activate potent immune responses and its consequent effect on latent BoGHV-4 infections. For this purpose, an analysis by RT-PCR and ELISA was carried out at different times in cell cultures infected with BoGHV-4 and/or treated with LPS. The results demonstrated that in vitro infection of bovine endometrial cells (BEC) by BoGHV-4 downregulates the TLR4 gene, while the co-presence of BoGHV-4+LPS induces early overexpression of the gene, driven by a synergistic interaction enhanced by LPS. Maximum fold-gene expression for CXCL-8 and IFN-γ in BoGHV-4-infected BEC cells coincided with the maximum viral titer (48 hpi). The increased production of CXCL-8 by BEC cells in the presence of BoGHV-4+LPS indicates a more intense inflammatory response compared to other scenarios. This study demonstrates that bacterial-viral coinfection may exert synergistic effects on endometrial inflammation.

(P29) CONTRIBUTION TO THE EPIDEMIOLOGY OF FLAVIVIRUSES DETECTED IN NATIVE WILDLIFE IN WALLONIA

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Usutu virus (USUV) is an RNA virus from the Flaviviridae family, closely related to the more pathogenic West Nile virus. Initially isolated from Culex neavei mosquitoes in South Africa in 1959, USUV has since spread across Africa, the Middle East, and Europe, primarily affecting wild birds. European Blackbirds (Turdus merula) are particularly susceptible, experiencing significant epizootics and mass mortalities.

The natural transmission cycle of USUV involves mosquitoes and birds as amplifying hosts, with humans and most mammals being incidental hosts. In Europe, USUV has been found in multiple species, including bats, and antibodies have been detected in various domestic and wild animals, including horses, dogs, squirrels, wild boar, deer, and reptiles.