**Epidemiology and Infection**

**Extension of the known distribution of a novel clade C betacoronavirus in a wildlife host**

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Supplementary Table S1:

Primers and oligonucleotide sequences used in the study

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| Name | Sequence (5’-3’) |
| EriCoVF | TAATCGCCAATACCATCA |
| EriCoVR | CAACCACCATAGAACTTAG |
| EriCoV ultramer oligonucleotide | ATCGATCGTATGACTAATCGCCAATACCATCAAAAGATGCTCAAGTCTATGGCTGCCTACTTGTGTCATAGGAACTACTAAGTTCTATGGTGGTTGGGATTTTATGTTAA |

Supplementary Table S2:

Microscopic abnormalities for subset of hedgehogs that tested PCR-positive for Erinaceus coronavirus

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| **Case number** | **Carcass preservation** | **Signalment,** **body condition & body weight (g)** | **Microbiology****& Parasitology** | **Macroscopic abnormalities** | **Significant microscopic abnormalities/ Cause of death**  |
| 432-15 | Fresh, advanced decomposition | Subadult/ adult male; normal body condition weight not available | Liver: confluent mixed *Clostridium* sp.SI contents, skin: NSFSI contents: negative | Polytraumatism: multiple fractures, internal haemorrhage and ruptured viscera | All tissues: Autolysis, diffuse, moderate**Respiratory and gastro-intestinal tract**Lung: Bronchopneumonia, eosinophilic and lymphocytic, multifocal, moderate with intrabronchiolar nematodes (morphology consistent with *Crenosoma* sp.)Stomach: Mucosal infiltrates, eosinophilic, multifocal, mildwith focal glandular distention and mild, focal submucosal lymphocytic infiltrateOther significant findings:Brain: Haemorrhage, parenchymal, multifocal, acute moderateCOD: Trauma |
| 606-15 | Fresh, moderate decomposition | Adult female; normal body condition 600 g | Skin: mixed *Staphylococcus aureus* sp. (aurex +ve)Liver, SI contents: NSFSI contents: numerous Strongyle-type ova with scanty helminth larval forms observed. Lung: negative | Molar teeth: Dental plaque, multifocal, moderateVentrum: Wound, focal  | All tissues: Autolysis, diffuse, moderate**Respiratory and gastro-intestinal tract**Trachea: Tracheitis, proliferative, ulcerative and erosive, lymphoplasmacytic and eosinophilic, multifocal to coalescing, chronic, severe with intralesional and intraluminal nematodes (morphology consistent with *Capillaria* sp.)Lung: Bronchopneumonia, eosinophilic and lymphoplasmacytic, multifocal, chronic with intrabronchiolar nematodes (morphology consistent with *Crenosoma* sp)Stomach and large intestine: Eosinophilic infiltrates, multifocal, moderateCOD: Undetermined |
| 675-15 | Frozen, advanced decomposition | Adult male; thin body condition 402g | Liver, SI contents, skin: NSFSI: Moderate number of *Capillaria* sp. ova.Lung: negative | NSF, other than thin body condition  | All tissues: Autolysis, diffuse, severe - interpretation not possible of heart, liver, lung, kidney, spleen, 8 sections GIT, muscle.COD: Undetermined |
| 731-15 | Frozen, moderate decomposition | Juvenile female; emaciated body condition264g | Liver, SI contents, Skin: NSF Skin: Confluent *Staphylococcus aureus* (aurex +ve)SI: Adult trematodes observed. | NA | Autolysis, diffuse, severe - interpretation not possible of liver, spleen, intestine, stomach**Respiratory and gastro-intestinal tract**Lung: Bronchopneumonia, eosinophilic, multifocal, mild.COD: Undetermined |
| 1175-15 | Fresh, mild autolysis | Adult female; normal body condition 949g | Liver, SI contents, lung, pleura, skin: NSFSI contents: Numerous number of *Capillaria* sp. ova.Lung: negative | Lung/pleura: Pleuropneumonia, bilateral, suppurative, multifocal to coalescing, severe, chronic with adhesions to pericardium and diaphragmPericardium: Pericarditis, suppurative, diffuse, severeChest (subcutis and skeletal muscle): Abscessation, multifocal, moderate | **Respiratory and gastro-intestinal tract**Lung: Pleuropneumonia, suppurative, locally extensive, severe, subacute with intralesional Gram negative bacteria and focal intravascular metazoan parasite Diaphragm: Myositis, suppurative, locally extensive, severe, subacute with intralesional Gram negative bacteriaChest wall: Myositis, steatitis and mammary gland adenitis, locally extensive, severe with fibrosis and possible necrosis Stomach: Gastritis, lymphoplasmacytic, multifocal, mildIntestine: Enterocolitis, eosinophilic and lymphoplasmacytic, multifocal, moderate with luminal metazoan parasitesCOD: Pleuropneumonia, pericarditis, suppurative |
| 1353-15 | Frozen, mild autolysis | Adult male; normal body condition 715g | Liver: confluent nearly pure isolate *Staphylococcus* sp.. SI contents, throat, skin: NSFSI contents: Numerous number of *Capillaria* sp. adult nematodes. | Skin: Dermatitis, exudative, multifocal, chronic, moderateRight tibia: Callus, focal chronic with suppurative osteomyelitisRight kidney: Atrophy, diffuse, severe with mineralisation  | All tissues: Moderate to severe autolysis and freeze-thaw artefact - interpretation not possible of the gall bladder, kidney, stomach, lung, trachea, lymph nodes, adrenal gland/**Gastro-intestinal tract**Small intestine: Luminal metazoan parasites, moderate numbers Other significant findings: Haired skin: Dermatitis, mild to moderate with basketweave orthokeratotic hyperkeratosis, serocellular crusting with bacteria and focal mild granulomatous dermatitis with foreign materialHeart: Intravascular bacteria, Gram positive cocciRight kidney: Renal atrophy/degeneration COD: Trauma + suspect bacteraemia |
| 1358-15 | Frozen, mild autolysis | Juvenile male; emaciated body condition 240g | Skin: *Staphylococcus aureus* sp. (aurex +ve)Liver, SI contents: NSFSI contents: Small number of *Capillaria* sp. ova.Lung: negative | NSF, other than emaciated  | All tissues: Moderate to severe autolysis and freeze-thaw artefact - unable to assess inflammatory cell response and no interpretation possible of the gall bladder, spleen, kidney, small intestine, stomach, lymph node, bladder, adrenal gland, pancreas, brain.**Respiratory and gastro-intestinal tract**Lung: Intrabronchial adult nematodes, multifocal, moderate (morphology consistent with *Crenosoma* spp.)Small intestine: Luminal adult metazoan parasites, numerous (*Capillaria* spp. and a possible trematode). COD: Suspect starvation + endoparasitism |
| 1359-15 | Frozen, mild autolysis | Juvenile male; thin body condition 253g | Skin: *Staphylococcus aureus* sp. (aurex +ve)Liver, SI contents: NSFSI: Acanthocephalans on SI and stomachSI contents: cestodesLung: *Crenosoma* sp. adults, larvae and ova | Verminous pneumonia, GIT endoparasites, thin | Moderate to severe autolysis and freeze-thaw artefact - unable to assess inflammatory cell response and no interpretation possible of the kidney, liver, spleen, heart, testis, lung, adrenal gland, GIT.**Respiratory and gastro-intestinal tract**Lung: Intrabronchial/ bronchiolar parasites, multifocal (morphology suggestive of *Crenosoma* spp).COD: Suspect verminous pneumonia + starvation |
| 1425-15 | Fresh, moderate decomposition | Subadult female; thin body condition 260g | Liver, spleen, SI contents, tracheal mucus, mesenteric lymph node: Confluent mixed predominance *Yersinia pseudotuberculosis*Skin: *Staphylococcus aureus* sp. (aurex +ve)Numerous ectoparasites fleas and ticksLI contents: negative Lung: numerous *Crenosoma* sp. larvae and *Capillaria* sp.adults and ova | Liver: Hepatomegaly and multifocal hepatitisLung: Verminous pneumoniaMesenteric lymph node: moderate lymphadenomegaly (30.1 x 14.0 x 11.5cm, 2.8g)  | All tissues: Moderate to severe autolysis **Respiratory and gastro-intestinal tract**Trachea: Tracheitis, diffuse, severe, chronic with intralesional nematode adults and eggs (Capillaria spp suspected)Lung: Bronchiolitis and pneumonia, lymphohistiocytic and eosinophilic, multifocal, moderate, chronic with intralesional nematode adults, larvae and eggs (consistent with Crenosoma spp)Intestine: Intraluminal nematodes, many (adults and eggs; Capillaria spp possible)Other significant findings:Liver: Hepatitis, random multifocal, moderate, acute with Gram negative coccobacilli bacteria and multifocal necrosisCOD: Yersiniosis |

NAD: No abnormalities detected, NA: Not available, COD: Cause of death, SI: small intestine, NSF: no significant findings, GIT: Gastrointestinal Tract