Vesicular disease ruled out

A veterinarian reported suspect vesicular disease in a rising two-year-old red Devon heifer. An Initial Investigating Veterinarian (IIV) visited the property and clinically examined the heifer and nine others from the same cohort. The affected animal was agitated but did not exhibit drooling, lip smacking or lameness. It had a fever (rectal temperature > 40ºC) and erosions on the muzzle and ventral surface of the tongue. Vesicular disease was excluded on clinical and epidemiological grounds. The lesions were determined to be the result of a primary photosensitivity.

A veterinary pathologist phoned the exotic pest and disease hotline to report a submission form with a case description of “moribund 3–4 month old calf with multiple ulcers on nares and feet”. The pathologist was unable to contact the veterinarian to seek clarification and decided to alert MAF. When reached by phone, the veterinarian said the lesions were nasal ulcerations only and the foot lesions were actually cracks in the epidermis on the plantar aspect above the coronary band. No evidence of vesicles was seen. The calf had been in poor condition since birth, with increasingly severe ill-thrift. During the previous week it had rapidly lost condition and was finally euthanased when it became moribund after an episode of scouring. The biochemistry was as expected for a recumbent, anorectic calf with diarrhoea, and the faecal cultures and BVD antigen serology were negative. The animal was buried immediately after the samples were taken and was not available for further diagnostics. There were no other calves exhibiting clinical signs of illness in the in-contact mob of 105. Exotic disease was ruled out on clinical and epidemiological grounds and the investigation stood down.

Bovine encephalomyelitis investigated

A veterinary pathologist notified the IDC of a month-old beef calf that had an acute non-suppurative necrotising meningoencephalomyelitis. This type of lesion has been associated with disease caused by bovine herpes virus 5 (BoHV-5), a disease not present in New Zealand. Paraffin tissue blocks from the brain of the calf were tested by PCR and found to be negative for BoHV-5. In addition, nasal swabs were collected from 23 of 100 unaffected calves on the property and were all negative for BoHV-5 by PCR. An incidental finding was papular stomatitis virus in three of the nasal swabs (13 percent) but it is not believed that this caused the meningoencephalomyelitis seen in the affected calf.

A Gribbles veterinary pathologist contacted MAF to report receiving tissues from a five-month-old calf that had been necropsied and found to have fibrinopurulent pleuritis, chronic peritonitis and lymphoplasmacytic meningoencephalitis. The lesions were suggestive of sporadic bovine encephalomyelitis (SBE), a disease caused by Chlamyphila pecorum. While this bacterium is known to be present in New Zealand, the syndrome has previously not been reported here and other possible causes such as Pasteurella septicaemia would not be entirely consistent with the syndrome observed. Only the one calf was affected. Histopathology slides were referred to Massey University for review, where pathologists reported that the lesions were consistent with SBE but that subacute Histophilus somni infection was also possible, as cases had been reported in the area before. The histopathology was also inconsistent in that no prominent lymphoid cuffs were visible around bronchi or blood vessel in the lungs, and no bacteria were visible (although only H&E-stained sections were viewed). No bacteria had been seen in Gram stains by the referring pathologist. Paraffin-embedded characteristic brain lesions were referred to IDC Wallaceville for PCR to try and detect C. pecorum and H. somni. The tissues tested negative to Chlamydophila-specific PCR and a generic PCR of the 16S gene to detect other amplifiable bacterial fragments, so a diagnosis of SBE could not be confirmed. The cause of the syndrome is uncertain, but an exotic organism is not suspected.

Peritonitis outbreak investigated

A pathologist from Gribbles Veterinary Laboratories contacted MAF to submit a Pasteurella multocida culture for subtyping. The organism had been isolated from pleural and peritoneal fluid collected at necropsy of a five-month-old Friesian/Jersey cross heifer with bacterial septicaemia characterised by pleurisy and peritonitis.
A total of four heifers had died over five days. The affected calves were the older, most grown out calves among 400 replacement heifers on the farm. An increased level of coughing in the older calves, without fever or other illness, had been noticed at weighing two weeks prior to the deaths. Original frozen samples were submitted to IDC (Wallaceville) for typing. Molecular assays excluded toxigenic Pasteurella strains, including the B2 and E2 strains associated with haemorrhagic septicaemia. A Pasteurella multocida capsular serogroup-specific PCR generated a positive result for capsular type B. This particular type appears to have been the primary agent in a number of outbreaks of bacterial septicaemia among weaned calves from various regions (Stone, 2003; McFadden et al., 2011). Further analysis of the isolate using multi-locus sequence typing (MLST) and somatic (Heddleston) typing will be carried out.

A Gribbles veterinary pathologist reported submission of specimens from calves with peritonitis and pleuritis. In a group of 30 Friesian/Jersey cross calves, two animals had high temperatures and rapid respiratory rates and six had died. A necropsied animal showed yellow fibrinous exudate in the thorax and abdomen, with adhesions between the lung and pleura. The abomasal fundus showed marked gross inflammation. Histologically there was evidence of fibrinopurulent peritonitis, pleuritis and lymphadenitis, and culture produced a heavy growth of Pasteurella multocida from the thoracic and abdominal fluid. The cultures were submitted to the IDC Animal Health Laboratory for typing to exclude haemorrhagic septicaemia. PCR was conducted, and diagnosed Pasteurella multocida capsular type B, while type B2 (haemorrhagic septicaemia) was excluded. There have been several cases of pasteurellosis with the above syndrome associated with this capsular type reported in calves in New Zealand.

**Salmonella Luckenwalde confirmed**

A Gribbles pathologist reported isolating Salmonella Luckenwalde from an effluent sandtrap on a Taranaki dairy farm in January 2012. The isolate was identified by the Enteric Reference Laboratory at the Institute of Environmental Science & Research Ltd (ESR). There was no clinical disease in the herd of about 250 cows, although there had been a salmonella outbreak associated with endemic S. serovars (S. Mbandaka and S. Typhimurium) in 2011. S. Luckenwalde has not been identified previously in New Zealand, is very rarely reported worldwide, and apparently had no impact on the farm. A literature search identified no entries in the animal (CAB Abstracts) and human (PubMed) literature search engines, and discussions between ESR and two main overseas WHO collaborating laboratories indicates only occasional isolations worldwide (Muriel Dufour, Senior Scientist, ESR, pers. comm., 2012). One isolation was made in Australia in 1986 from cocoa powder, while in Europe there are records of two human isolations (in 2004 and 2011) and one from plant material (Desmodium spp.). There was no indication of enhanced pathogenicity in this serovar, and it is not an emerging serovar of concern in animal or human populations, so the investigation was stood down.

**Ovine pulmonary oedema investigated**

A veterinary practitioner called the exotic pest and disease hotline to report an unusual case of pulmonary oedema and hydrothorax in a sheep. One had died and three others were exhibiting respiratory signs, out of a flock of 190 two-tooth ewes. The animals had been in good health two weeks previously when yarded for vaccination, but the dead sheep had been slow during the muster and had to be transported to the yards by the farmer. It died half an hour later. At necropsy, while there were no oral mucosal lesions, facial swelling or crusty evident, the lungs were acutely oedematous and a large quantity (at least 1 L) of clear fluid was present in the thorax. Haemorrhages were evident in the cardiac serosa, but not at the heart base, and they were relatively minor. Coronary bands were not examined.
Endemic differential diagnoses include *Clostridium perfringens* enterotoxaemia or acute toxin exposure (plant, fungal or other). Specimens were collected for histopathology and microbiology and submitted to the AHL. PCR for bluetongue virus in splenic tissue was negative, and general culture of various fresh organ tissues yielded light mixed growths with no predominant isolate. Histopathology reviewed by Massey University showed evidence of centrilobular hepatic congestion and hepatocellular atrophy, as well as marked pulmonary oedema. The combination of lesions strongly suggested congestive heart failure, possibly due to a congenital cardiac anomaly that had decompensated. There were occasional foci of lymphoplasmacytic infiltration of the epicardium and adjacent myocardium, but no evidence of toxic cardiomyopathy or other acquired lesions. As no evidence of an exotic disease was present, the investigation was stood down.

**Cervid parapoxvirus confirmed**

The IDC was notified by a veterinarian of a number of deer with crusty lesions on their velvet. The outbreak occurred during the velveting season (December 2011) and affected most of the two-year-old stags from two management groups (200 animals in total) to varying degrees. Fresh and fixed specimens of velvet were collected from the affected deer. Histologically there was a subacute, proliferative dermatitis with ballooning degeneration, consistent with parapox virus of red deer and this was confirmed by PCR and electron microscopy. (See also article on parapoxviruses in domestic livestock, page 14.)

**EIA/EVA ruled out**

A Gribbles veterinary pathologist contacted MAF to report an eight-year-old Thoroughbred mare with severe anaemia. The horse had been imported from Australia one year previously, and until recently had been in good health. It had recently been noted to be lethargic. Apart from a reduced haematocrit and haemoglobin, and some mild foaming of neutrophils (possibly signifying inflammatory change), no abnormalities of haematology or biochemistry were noted, and no haemoparasites were seen in a blood smear. The mare was last served in November. Serum and EDTA blood were requested to exclude equine viral arteritis (EVA) and equine infectious anaemia (EIA). The animal tested negative for EVA by virus neutralisation test, and for EIA by agar gel immunodiffusion test. The anaemia remains unexplained, but is unlikely to have been due to infection. The investigation was stood down.

A Gribbles veterinary pathologist reported a case of severe anaemia in a ten-year-old Miniature horse. Both the haematocrit and total protein were lower than the expected reference ranges. Clinical pathology signs seen on blood smear suggested blood loss by haemorrhage, but no signs of intracellular parasitism were detected. Serum samples were submitted to the IDC to rule out equine viral arteritis and equine infectious anaemia. The animal died but post-mortem samples were not available for examination. It had been in contact with a Miniature stallion imported into New Zealand 18 years ago, and which was in good health. A Coggins test for equine infectious anaemia and virus neutralisation test for equine viral arteritis were both negative. Exotic disease was ruled out and the investigation was stood down.

**EVA ruled out**

A pathologist from NZVP informed MAF via the exotic pest and disease hotline of a seven-year-old broodmare with a history of colic, muzzle oedema and congested mucous membranes. The horse was New Zealand-bred but had been at stud in Australia, having returned more than 12 months previously. Routine haematology identified normal red-cell parameters and a mild leucopaenia with high/normal fibrinogen. Equine viral arteritis was excluded after negative results (titres < 1:2) in a virus neutralisation test carried out on acute and convalescent sera at IDC (Wallaceville). The colic and oedema resolved rapidly with routine treatment, although the mare went on to develop laminitis that slowly resolved with routine management. Exotic disease was excluded and the investigation was stood down.

**Brucella canis ruled out**

A veterinarian phoned the exotic pest and disease hotline regarding a histopathology diagnosis of epididymitis in an adult male Huntaway farm dog. The dog had presented to the private veterinarian with testicular swelling and been surgically castrated. It was NZ-bred and had not had contact with any imported animals. *Brucella canis* was ruled out by a negative card agglutination test and the investigation stood down.

A veterinary pathologist from NZVP called the exotic pest and disease hotline to report that a client had requested
a *Brucella canis* test on a dog that he planned to use for stud purposes. The dog was a New Zealand-born and bred 17-month-old Great Dane with signs of unilateral orchitis that persisted for a month despite antibiotic therapy. A serum sample was submitted to the IDC for exclusion of *B. canis* by card agglutination testing and found to be negative. The investigation was stood down.

**Leptospira canicola ruled out**

A dog tested positive to *Leptospira canicola* with the microagglutination test (MAT titre = 2:50) as part of a routine export test. The five-year-old female spayed dog had been born and bred in New Zealand and never left the country. When it was re-bled about a week after the first blood collection the serum tested negative to *Leptospira canicola* (titre < 1:50). The initial MAT was considered to be a false positive.

**Exotic ticks confirmed**

Two dogs imported from Dubai were detained in quarantine at the end of their ten-day mandatory quarantine period following the finding of three ticks on one and a further three ticks on the same animal next day. It was also noted that in Dubai neither animal had been tested with methods that complied with the Import Health Standard (IHS) for admission of dogs to New Zealand. They were detained in quarantine pending the results of leptospira, heartworm and babesia testing as required by the IHS. As the animals had ticks on them at the time of blood collection for the *Babesia* IFAT test, an additional PCR test was performed to rule out the possibility of recent infection. The ticks were identified as the brown dog tick, *Rhipicephalus sanguineus*. Both the IFAT and PCR tests for *Babesia* were negative in both dogs, as were the tests for heartworm and leptospirosis. The dogs were released from quarantine, having complied with the IHS, been treated with acaricides, and found to be tick-free after numerous examinations while in quarantine awaiting the results of the tests.

**Exotic mites excluded**

A human diagnostic laboratory contacted the exotic pest and disease hotline to report receiving a specimen of mites collected from a human. The submitting medical practitioner had tentatively identified them as bird mites, based on appearance and an internet search. The medical practitioner was contacted for further history. No overseas travel was noted by the patient, nor did she keep birds, although she did have a cat, which had recently brought in a dead bird. The mites were submitted to MAF’s Plant Health and Environment Laboratory at Tamaki for identification, and confirmed to be *Ornithonyssus bursa*, the tropical fowl mite. This species is established in New Zealand and is associated with pest birds such as starlings. Humans are considered accidental hosts. Information was provided to the submitting medical practitioner and the investigation was stood down.

**Avian mortalities investigated**

A veterinarian called MAF after a client reported that five chickens of varying ages had died overnight in a mixed-aged backyard layer flock of about 18 birds. Three were delivered to New Zealand Veterinary Pathology for post-mortem examination and histopathology. Samples were collected and submitted to IDC (Wallaceville) for exclusion of exotic diseases. Two birds were in excessive body condition, while one was in below average. Gross post-mortem findings were unremarkable apart from the presence of extensive abdominal adhesions and a multilocular oviduct cystic mass in the bird that was in poorer condition. Haemorrhage and inflammatory lesions were absent from key target organs for exotic viral diseases (proventriculus, caecal tonsils and intestinal Peyer’s patches). Owing to post-mortem autolytic changes, only one bird was suitable for histopathology. It had inflammatory infiltrates in the ovarian stroma, mesenteric abscesses and evidence of a systemic bacterial infection. Faecal and visceral tissue samples from each bird were negative for avian paramyxovirus type 1 and influenza A by TaqMan RT-PCR. Lesions were consistent with an ascending oviduct infection resulting in egg yolk peritonitis. No further deaths were reported after the flock was medicated with oral antibiotics, and the investigation was stood down after excluding exotic disease.

A Department of Conservation ranger called the exotic pest and disease hotline to report that 60 black-billed gulls (*Chroicocephalus bulleri*) had been found dead at a nesting site in the Roxburgh area. Samples were submitted to Massey University for post-mortem examination. Preliminary findings were trauma, with two of the submitted animals having fractured vertebrae in the necks noted on radiographs and others having subcutaneous haemorrhages in the cervical area. Histopathological examination of a full suite of tissues showed no evidence
of any infectious process. Blunt trauma as a result of a malicious event was considered the most likely cause of the incident. The investigation was stood down.

**Rabbit haemorrhagic disease confirmed**

A childcare centre employee contacted MAF via the pest and disease hotline after finding a pet rabbit dead in its hutch and about eight dead wild rabbits in and around the centre. The domestic rabbit was submitted to Gribbles Veterinary Laboratories for post-mortem examination and histopathology. Further questioning led to more reports of dead wild rabbits at other properties in the area. The domestic rabbit had not been vaccinated against rabbit haemorrhagic disease (RHD or rabbit calicivirus infection). Post-mortem examination and histopathology revealed marked multifocal pulmonary haemorrhage and hepatic necrosis consistent with RHD. There was also evidence of hepatic coccidiosis. Exotic disease was excluded and the investigation was stood down.

**Honey bee exotic mites excluded**

The IDC was notified by an AsureQuality apiary officer of a bee colony where there were high numbers of mites present. The mites were identified by a MAF entomologist as a common pollen feeder, *Neocypholaelaps* *novahollandiae*. There were no exotic mites or other insects located among the bees and no tracheal mites were found on tracheal examination.

**Southern saltmarsh mosquito ruled out**

A biosecurity officer from the Marlborough District Council contacted MAF to report a suspect southern saltmarsh mosquito (SSM) (*Ochlerotatus camptorrhynchus*). Two members of the public had reported being bothered by persistent, biting mosquitoes in their garden in the Seddon area. This was an unusual occurrence as they claimed not to have experienced it before in 20 years at the property, and because the site was only 1 km from a previous SSM incursion, the biosecurity officer reported it to MAF. The afternoon when the biting occurred was reported to be very windy and the wind direction meant it could have blown mosquitoes from the previous incursion site to the house concerned. A specimen caught by the people who reported the biting was sent to MAF’s Plant Health and Environment Laboratory at Tamaki, where it was identified as *Aedes notoscriptus*, the common striped mosquito. This mosquito is established in New Zealand and is known to be present in the northern South Island. Although it is a known nuisance biter, it tends to bite in the evening and early morning rather than the afternoon, but day-time biting has been recorded, especially in shady sites.

**REFERENCES**


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