

Pathology Report

Submitter Ref.:	Date Sent: 06/09/2005	Accession No.: 37659
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To:



Report Sent:

Copy To:

Email:

Species: Avian-Wildlife	Breed: Kiwi (North Island Brown)		
Age: Adult	Sex: Male		
Owner: Department of Conservation			Type: Post Mortem
ID: Moe 198 - Earl			Prev. Accn.:
Submitted: 0	At Risk: 0	Affected: 0	Dead: 0

History

No known history.

Kiwi found dead by staff near bait station - part of a line of bait station recently filled with the toxins 'Raccumin' and 'Feratox Encapsulated Cyanide Pills'.

Note:

Tests required for these 2 toxins

Full post mortem required.

All feathers are required to be returned to: Moehau Kiwi Sanctuary, Waikawau Beach Road, RD 4, Coromandel, for culture purposes.

Gross Findings

Weight = 1.86 kg.

The bird was in good body condition with no external abnormalities. A blood patch is present on the ventral abdomen. There are good subcutaneous fat reserves.

The lungs are filled with haemorrhage and are very dark.

Both testes are active.

The gizzard is full in insects include beetles, spiders, larvae and nymphs.

Histopathology

In the liver, there is very mild plasmacytic inflammation, and vacuolation of the cytoplasm of most hepatocytes.

The testes show fibrosis of the interstitium and degeneration of spermatogenetic cells with infiltration of macrophages into seminal tubular lumens.

In the lung there is a thin walled giant cell granuloma formation near a parabronchi lymphocyte inflammation around a circular a cellular foreign body. There is mucus and fluid remnants throughout the parabronchial lumen.

In the gizzard lining, there is an embedded nematode cross-section in the lamina propria which is thickened by fibrous tissue and chronic inflammatory cells.

Clinical Pathology / Toxicology / Biochemistry

Cyanide assays

Liver 7.1 micro grams/ g

Kidney 0.80 micrograms/ g

Gizzard 3.0 micrograms/ g

Coumatetralyl results on liver, kidney and gizzard content were all <MDL

Provisional Diagnosis

1. Sudden death of unknown cause
2. Pulmonary haemorrhage

Diagnosis

1. Cyanide toxicity.
2. Cholangitis, plasmacytic, mild.
3. Testicular degeneration, acute.
4. Focal aspiration pneumonia, foreign body.
5. Ventricular nematodiasis, moderate, chronic.

Date: 09/09/2005	Pathologists: [REDACTED]
Students:	

Pathology Report

Submitter Ref.:	Date Sent: 06/09/2005	Accession No.: 37661
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To: 

Report Sent:
Copy To:

Email:

Species: Avian-Wildlife	Breed: Blue Penguin		
Age:	Sex:		
Owner: Department of Conservation	Type: Post Mortem		
ID:	Prev. Accn.:		
Submitted: 4	At Risk: 0	Affected: 0	Dead: 4

History

Found in nest. All nest sites damp.

Gross Findings

Chick A:

Weight 72g.

The chick is moderately autolysed. There is no remaining yolk sac. The proventriculus is full of fish material. No other significant findings.

Chick B:

Weight = 37g.

The chick is in poor body condition.

There is a remnant yolk sac and no food in the gastro-intestinal tract. Immature ovary & oviduct.

Chick C:

Weight = 51g.

The chick is in good body condition and the proventriculus is full of fish slurry. Two immature testes present.

Chick D:

Weight = 35g.

The chick is in poor body condition.

The skin is torn on the back of the head, however this has probably occurred after death. The internal organs are severely autolysed, but the proventriculus is empty.

Microbiology

SAMPLE: Liver (Fresh) Sample No: B

CULTURE RESULTS

Aerobic

Moderate growth of Staphylococcus sp.

SAMPLE: Liver (Fresh) Sample No: C

CULTURE RESULTS

Aerobic

Moderate growth of Staphylococcus sp

Diagnosis

Chick A - Hepatitis, diffuse, moderate.

Chick B - Unknown cause of death.

Chick C - Unknown cause of death.

Chick D - Unknown cause of death.

Comments

Chick A - The cause of the liver infection was not able to be identified.

Chick B - The body is too decomposed to determine a cause of death.

Date: 09/09/2005	Pathologists: [REDACTED]
Students:	

Pathology Report

Submitter Ref.:	Date Sent: 14/12/2010	Accession No.: 45768
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To:



Report Sent:

Copy To:

Email:

Species: Avian-Wildlife	Breed: Kiwi (brown)		
Age: Subadult - ~14 Months	Sex: Male		
Owner: Department of Conservation	Type: Post Mortem		
ID: Kapua	Prev. Accn.:		
Submitted: 1	At Risk: 0	Affected: 1	Dead: 1

History

Found approximately 10 meters from a farm boundary. Of concern is that he was also about 5 meters from a bait station. Currently there is a mix of Pindone and Feratox throughout the reserves and this particular station only had 5-6 Pindone pellets left.

Gross Findings

The bird weighed 1.5kg, was in moderate to good body condition, and in a moderate state of preservation. There were numerous small maggots throughout the feathers and larger maggots within the oral cavity and brain case. The lungs were diffusely and severely deep red and wet. The right ventricle was moderately dilated and flabby. The spleen was markedly congested (but not meaty or firm) and the liver slightly swollen and pale. The kidneys were diffusely and severely dark red and there was a large amount of clotted blood elevating the renal capsule.

The gizzard contained a moderate amount of normal appearing ingesta, while the small and large intestine contained a moderate amount of dark green, pasty material. The entire intestine was in a moderate to advanced state of autolysis.

No other abnormalities were noted on gross post-mortem.

Histopathology

Heart: within the subendocardial myocardium of the left ventricular free wall is a roughly 150 micron in diameter granuloma composed of a central core of eosinophilic and pyknotic debris bordered by a thick band of macrophages and multinucleated giant cells, and an outer, less discrete zone of lymphocytes and plasma cells that infiltrate the adjacent interstitium and extend to the endocardium. Multiple other sections of heart are examined, and apart from a small focus of epicardial haemorrhage, small numbers of heterophils and a small amount of pyknotic debris, no other abnormalities are noted.

Spleen: there is marked diffuse congestion.

Liver: there is regional marked congestion of sinusoids.

Lung: there is marked diffuse congestion. There are numerous small to medium-sized lymphocytic aggregates scattered throughout the adipose tissue between lung lobes as well as within the submucosa of several extra- and intrapulmonary bronchi.

Kidney and adrenal gland: there is marked congestion as well as multifocal subcapsular haemorrhage in the kidney.

Gizzard and proventriculus: there are multiple, fairly discrete lymphoid aggregates within the deep lamina propria.

Sections of brain, testis show no obvious abnormalities.

Sections of thymus and intestine are too autolysed to critically interpret.

Microbiology

45768 Liver Heavy growth of *Hafnia alvei*

45768 Liver Scant growth of *Bacillus cereus*

45768 Liver Scant growth of *Enterococcus* species

45768 Liver No *Salmonella*, *Yersinia* or *Campylobacter* isolated

Parasitology

Small numbers of tapeworm eggs.

Clinical Pathology / Toxicology / Biochemistry

No pindone was found in a sample of frozen liver.
Cyanide levels in the liver were 1.6 micrograms/gram.

Diagnosis

Cyanide toxicosis

Comments

The liver contained toxic levels of cyanide, more than likely the result of ingesiton of Feratox bait.

Date: 14/12/2010	Pathologists: [REDACTED]
Students:	

Pathology Report

Submitter Ref.:	Date Sent: 20/10/2015	Accession No.: 52673
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To: [Redacted] rust

Report Sent:

Copy To:

Email:

Species: Avian-Wildlife	Breed: Kiwi (brown)		
Age: Juvenile - Approx 12 Months	Sex: Male		
Owner: Department of Conservation	Type: Post Mortem		
ID: None	Prev. Accn.:		
Submitted: 1	At Risk: 0	Affected: 1	Dead: 1

History

Found dead in Maugataniwha, Putere, Pindone ratbait used in the area.

Gross Findings

The bird weighed 997g and was in good body condition. There was frank blood and blood clots present in the oral cavity, and adhered to the feathers on the right side of the face. The tracheal lumen contained frank blood. The coelom contained a moderate amount of free unclotted blood. The liver was diffusely dark red and congested. The right lung was dark red and congested. The left lung was diffusely enlarged and mottled pink red in colour. The right abdominal wall contained multiple areas of haemorrhage. The ventriculus contained a large amount of rocks, partially digested insects and seeds. No other abnormalities were seen on gross examination

Histopathology

Lung: there is marked congestion and air-capillaries often contain small amounts of wispy, pale eosinophilic amterial and small numbers of macrophages.

Heart: there is an extensive area of epicardial and superficial myocardial haemorrhage; adjacent cardiomyocytes appear within normal limits.

Intesinte: two sections of small intestine contain three cross sections of cestodes within the lumina. Sections of liver, kidney, bursa, proventriculus, gizzard and pancreas show no obvious abnormalities.

Parasitology

To follow

Clinical Pathology / Toxicology / Biochemistry

Diphacinone (19940 Muscle tissue): below MDL
Landcare Report T6049.

Pindone (19940 Muscle tissue): 0.15 micrograms/gram
Landcare Report T6048

Diagnosis

Intracoloemic haemorrhage (see comments)

Comments

Death is likely the result of blood loss, and bleeding into the lungs; unfortunately histology was unable to assist as to the cause of the haemorrhage.

Pindone residue was found in the muscle (tested by Landcare) indicating this kiwi has been exposed at some stage, whether it be through direct consumption of bait or secondarily through feeding on invertebrates that have ingested the bait.

Little is known about the level of pindone needed to induce its anticoagulant effects in kiwi and little is known about

pindone residues in kiwi that have died without evidence of haemorrhage (ie. of other causes). In the absence of obvious trauma (as a potential cause of haemorrhage) and the finding of pindone residue in the muscle, then exposure of pindone should be considered as a potential cause of the haemorrhage in this kiwi.

Date: 23/10/2015	Pathologists: 
Students:	