

Necropsy Report
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Species Name	: GYMNOGYPS CALIFORNIANUS	Necropsy #:	RP19398
Common Name	: CALIFORNIA CONDOR	Accession #:	Referred
		Endangered -	USDI: E CITES: 1
Sex	: Male	ID #	:
Birth Date	: 2003/6/9	Prosector	: RACHAEL HOLLAND/PT
Death Date	: 2012/11/30	Histologist	: DR. REBECCA PAPENDICK
Preliminary	: 2012/12/01	Necropsy Date:	2012/12/01
Final	: 2013/01/08	Carcass Disp.:	
Addendum	:	Age at Death	: ADULT

Record initiated by JK

History retrieved from extensive medical records and keeper summary:

13 No 2012: 1.0 California condor (SB#318) (991426). This bird is currently released in Pinnacles National Park area. Per Scott Scherbinski, he has been seen on the ground and may be sick or injured. They are trying to gain access to the property and if they get this bird, he will be transported to the zoo first thing tomorrow morning.

14 Nov 2012 and following: Bird observed to be unable to fly and with very limited use of its legs. Captured and transported to Los Angeles Zoo after initial treatment (IV fluids, CaEDTA) at Monterey Pet Clinic. I/H lead >650 ug/dl. Large and several small metallic fragments seen on radiographs. Surgery performed 16 Nov; only able to remove the large fragment and one small fragment. Bird has very weak legs and crop stasis. Began Metoclopramide and tube feeding as well as continuing chelation and other supportive care. Found dead on 30 Nov 2012. A copy of submitted clinical medical records has been retained.

Body received on 2012/12/01 at 15:00 and necropsied that date at 15:30. Gross findings reviewed by Dr. Papendick.

GROSS FINDINGS:

Mature male. Trovan ID: 00-0643-8602. Body weighs 7.7kg. Mild autolysis. Muscles even with keel. Moderate subcutaneous, abdominal and pericardial adipose stores. The 4th right primary feather from the distal wing tip (#7?) is notched. The bird has a Trovan and no wing tag. The nasal and oral cavities are filled with yellow thick liquid (food material). The tracheal lumen is lined with the same yellow thick liquid. The lungs are red, wet, and float just below the surface of formalin. The air sacs surrounding the lungs and caudally to the kidneys are lined with minimal thin yellow (food) material. The right ventricle endocardial surface just below the free wall pulmonic valve contains a 0.2 x 0.3 cm hole that extends ~1 cm at an angle towards the pulmonary valve with no exit. The corresponding epicardial surface 0.6 cm from the pulmonary valve (where the tract ends) is dark red. The ventral midline from the caudal keel to 1 cm cranial of the cloaca has a straight slender area of raised skin (previous surgery incision). The body wall and fat underlying are

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loosely adhered to the site. The left side of the body from mid-rib to mid-tibiotarsus is dark red with thick gelatinous dark red subcutis beneath. The hemorrhage does not appear to extend into the musculature. GI contents: crop and ventriculus contain minimal thin watery yellow green liquid; ventriculus contains minimal thin watery yellow green liquid and minimal hair/seed material (ventricular content saved for radiographs); small intestine contains minimal thin tan green watery fluid; cecum, large intestine and cloaca contain minimal thin green watery liquid.

Histopathology is pending. Radiographs. Digital photographs. Cytology: lung. Frozen -20 degrees C.: fat, liver (x2), liver (CAHFS), muscle, kidney, crop contents. Frozen -70 degrees C.: liver, spleen, lung, kidney, brain, intestine, heart; WNV: kidney, heart, brain (pooled). RNA Later: jejunum, testis, liver. Genetics: heart, muscle. Cytogenetics: eye, trachea. D. Smith: liver, kidney, tibiotarsus, right mature primary feather #7, left mature primary feather #3. Body saved.

Preliminary Dx:

1. History of lead toxicosis
2. Lungs and airsacs: probable pneumonia and airsacculitis (food aspiration?)
3. Heart, right ventricle: focal ecchymotic hemorrhage
4. Subcutis, left leg and abdomen: hemorrhage
5. Body as a whole: good condition

CAHFS #D1213261 Heavy Metal Screen, Liver: FINAL 2012/12/06

Analytical results are consistent with lead exposure and possible intoxication. High liver iron concentrations are often noted in conjunction with lead exposure/intoxication.

Analyte	Result	Units	Rep.Limit	Units
Lead	4.6	ppm	1.000	ppm
Manganese	1.5	ppm	0.040	ppm
Iron	840	ppm	0.200	ppm
Mercury	Not Detected	ppm	1.000	ppm
Arsenic	Not Detected	ppm	1.000	ppm
Molybdenum	Not Detected	ppm	0.400	ppm
Zinc	17	ppm	0.100	ppm
Copper	24	ppm	0.100	ppm
Cadmium	Not Detected	ppm	0.3	ppm

FINAL DX:

1. HISTORY OF LEAD TOXICOSIS.
2. LUNGS AND AIRSACS: MILD MULTIFOCAL SUBACUTE TO CHRONIC PNEUMONIA AND AIRSACCULITIS.
3. HEART, RIGHT VENTRICLE: FOCAL ECCHYMOTIC HEMORRHAGE.
4. SUBCUTIS, LEFT LEG AND ABDOMEN: HEMORRHAGE (IATROGENIC, PRESUMPTIVE).

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5. BONE MARROW: ERYTHROID AND MYELOID HYPERPLASIA.
6. INCISION SITE: REGIONAL FIBROVASCULAR HYPERPLASIA (GRANULATION TISSUE) AND GRANULOMATOUS CELLULITIS AND STEATITIS (SUTURE REACTION).
7. BRAIN, CEREBELLUM (MOLECULAR LAYER): MILD MULTIFOCAL ACUTE HEMORRHAGE (MICROHEMORRHAGE).
8. SKELETAL MUSCLE: FOCAL INTRACELLULAR PROTOZOAL CYST (PRESUMPTIVE SARCOCYSTIS SP.).
9. BODY AS A WHOLE: GOOD CONDITION.

COMMENT:

Lead toxicosis is the cause of death in this condor. This is confirmed by the history as well as the post-mortem lead level in the liver. Although tiny metallic densities were detected in the ventriculus radiographically prior to necropsy, the fragments could not be identified grossly and are presumed to be buried in the koilin layer. It is unknown if these fragments are lead or another metallic substance. After sampling for histopathology, the remains of the ventriculus were frozen for further analysis if warranted. Pneumonia and airsacculitis are interpreted as secondary to aspiration of gastrointestinal contents due to crop stasis from the lead intoxication. Given the observed tissue reaction (early fibrosis), the respiratory disease had been present for several days to a week or so. The remaining findings are incidental and interpreted as secondary to toxicosis, treatment, or terminal shock, or are minor changes of no clinical significance.

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