

**ZOOLOGICAL PATHOLOGY PROGRAM
STRANDED CETACEAN NECROPSY REPORT**

Field ID: KAW20100822-LA001
Additional Identifier: LA 388
ZPP Accession Number: 11-10Tt
Species: *Tursiops truncatus*
Strand Date: 08/22/2010
Strand Location: Cocodrie, LA
Sex: Male
Age Class: Yearling
Necropsy Date: 08/23/2010
Condition code: 2
Total Length: 180 cm
Weight:
Blubber Depth: 8 mm
Body Condition: 4/7

Gross Necropsy: Report on file:
Findings include (from gross report):

Internal exam:

Red tinged (hemorrhagic) fluid in both R (-150mL) and L (-300mL) pleural cavities. Dorsal surface of R pleura was reddened (edematous and hemorrhagic).

Blubber: NVL. Blubber thickness (mm): 12 (dorsal), 8 (lateral), 8 (ventral).

Lungs: Pleural surface of both lungs were nodular on palpation. Moderate load of active lung worm present throughout airways. Multifocal granulomas present upon cut surface. R lung was irregularly discolored brown, approximately 5x3x1cm in size. Cut surface of both lungs were discolored dark-purple (edema). Distal bronchioles of L lung had a small region of deep reddened parenchyma (hemorrhage). Sub-serosal layer of trachea was discolored deep red (hemorrhage).

Head: Tongue bloated and discolored dark purple-red throughout (hemorrhagic). Tongue had short sized papillae (neonatal character). L & R tympanic bullas poured blood upon excision

Slides/Tissues Received: 19 regular slides, 1 large slide

Microscopic Findings:

Slide 1:

Adrenal gland: No significant findings (NSF).

Penis: NSF

Slide 2:

Skin/blubber: NSF

Slide 3:

Lung: Several bronchioles contain up to 500 micron diameter metastrongyle nematodes. Parasites have an eosinophilic cuticle, a coelom, coelomyarian musculature, lateral cords and an intestinal tract. Some parasites are surrounded by moderate numbers of neutrophils. There is a single moderately sized nodular accumulation of dense fibrous connective tissue within the subpleural interstitium.

Pulmonary lymph node: NSF

Slide 4:

Kidney: NSF

Slide 5:

Esophagus: NSF

Prescapular lymph node: NSF

Slide 6:

Trachea: NSF

Slide 7:

Heart: NSF

Cardiac lymph node: NSF

Slide 8:

Lymph node: Sinuses contain small to moderate numbers of histiocytes.

Adrenal gland: NSF

Testes: Immature – NSF

Slide 9:

Lymph node: NSF

Diaphragm: NSF

Urinary bladder: NSF

Slide 10:

Salivary gland/Pharyngeal tissue: NSF

Spleen: There are multifocal small to moderately sized lymphoid follicles.

Slide 11:

Stomach, pylorus: There are several up to 2 mm diameter dorsoventrally flattened trematodes within the gastric lumen focally adhered to the mucosa. Trematodes have testes with sperm and contain eggs with a brown, thick wall. The gastric submucosa contains a few nodular accumulations of bright eosinophilic necrotic debris and presumed degenerate neutrophils that surround up to 30-40 micron diameter larval metazoan parasites.

Lymph node: NSF

Slide 12:

Stomach, fundus: NSF

Slide 13:

Intestine: NSF

Slide 14:

Stomach, squamous portion: NSF

Slide 15:

Liver: NSF

Tongue: NSF

Slide 16:

Cerebrum: NSF

Spinal cord: NSF

Slide 17:

Cerebrum: NSF

Slide 18:

Cerebellum: NSF

Slide 19:

Ear: Within the ear canal adjacent to the bulla is a large accumulation of eosinophilic necrotic debris mixed with moderate numbers of presumed macrophages. Within the necrotic debris are moderate amounts of keratin debris, trematode eggs, and scattered fungal hyphae. Trematode eggs are up to 40-50 X 100 micron, oval to triangular, and have thick yellow walls. Hyphae are up to 10 microns wide, irregularly branching, septate, pale basophilic and have bulbous dilations. Necrotic material regionally fills the ear canal. In another area there is a nodular accumulation of large numbers of fungal hyphae. In a third separate area, the ear canal contains a triangular, approximately 120 micron wide, dorsoventrally flattened, trematode with paired ceca. Mucosa adjacent to the affected portions of the ear canal is segmentally absent and submucosa contains moderate numbers of macrophages.

Slide 20:
Eye: NSF

Final Diagnoses:

- 1) Ear: Moderate granulomatous and necrotizing otitis with ear canal trematode (*Nasitrema* sp., presumptive), trematode eggs (*Nasitrema* sp. presumptive), and fungal hyphae (Zygomycete, presumptive)
- 2) Lung: Mild multifocal neutrophilic bronchopneumonia with intralesional metastrongyles (gross and histologic diagnosis)
- 3) Pylorus: Moderate trematodiasis (gross and histologic diagnosis) and minimal multifocal submucosal necrosis with intralesional metazoan larvae

Ancillary Test Results: None available at the time of evaluation.

Comments:

The most significant finding in this dolphin was the inflammation and necrosis within the inner ear canal associated with both trematode and fungal infection. The ear canal lesion was considered severe enough that it could have played a role in stranding and death. The trematode and trematode eggs were consistent with *Nasitrema* sp. Fungal hyphae were most consistent with a zygomycete species. Fungal infection may have been secondary to damage from the migrating trematode or could have been tracked into the ear canal by the trematode.

Other lesions noted in the lung and pyloric portion of the stomach were mild and associated with parasitism. Parasite load was within acceptable limits for a young free-ranging dolphin.

Tissues were moderately autolyzed and contained significant bacterial overgrowth, therefore, subtle histologic changes may not have been appreciated.