

GROSS NECROPSY REPORT

Updated 11/11/2010

SPECIES Tursiops truncatus **FIELD NUMBER** 84IMMS102610 **DATE** 10/27/10

LOCATION Beach of Hwy 90 15 yds east of Trautman Ave, Long beach, MS
LAT30.34078N/**LONG**-89.15905

GENDER Female **TL** 199 cm **COND** Code 2 **WEIGHT** 79.5 kgs

HISTORY: Reported seen being attacked by sharks. Not sure if she was alive at the time.

NECROPSY

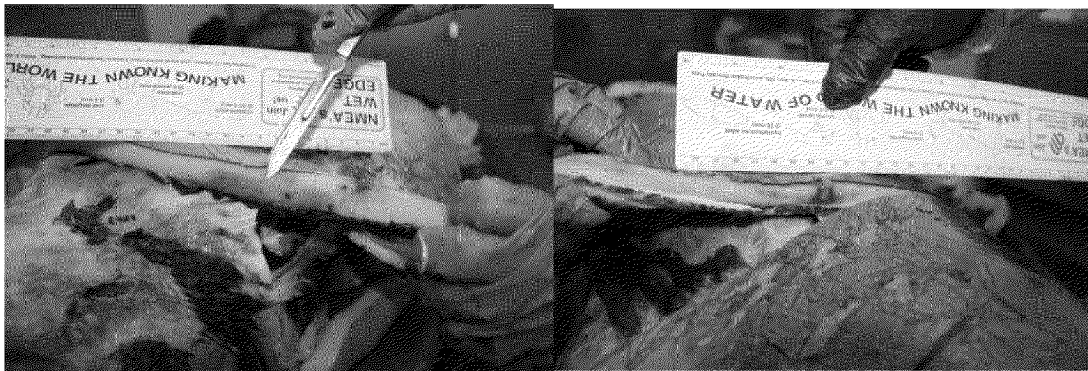
EXTERNAL EXAM: Generalized fresh conspecific rake marks on entire body. Flukes majority missing with semicircular bites due to shark bites. Three shark bites- two on the left and one large one on the right. Right flipper dorsal surface- multiple conspecific rake marks. Ventral right flipper- cranial aspect multiple healing conspecific rake marks. Medial aspect over humerus large bite with tissue removed due to shark bite. Bruising under right axilla. Bruising on right cheek and ventral mandible. Lower right jaw- 22 teeth. Upper right- 23 teeth, #3 tooth (counting caudal to cranial) was broken with ulcerated area surrounding on hard palate. #13, 14, 15 teeth black discoloration on labial side. #19 broken close to gumline. #22 broken close to gum. Tongue pale. Lower right jaw ulceration on labial surface adjacent to #13.



Superficial rake marks on tongue possibly due to self trauma. Lateral papillae present on tongue. Hard palate had multiple healing ulcerations varying in size from 1 cm to 1mm. Inside of right and left lingual gum surface had healing ulcers. "Peanut head" loss of post nuchal fat, indentation ventral to dorsal fin, lateral processes of vertebrae were visible from ventral to dorsal fin and along sides and peduncle. Grade 2-3 on SON score. Generalized fresh and healing conspecific rake marks on entire body and right dorsal fin. Caudal peduncle- semicircular bite marks and three lacerations- shark bites. Left lateral flipper- shark bite on humerus and radial joint. Large shark bite, blubber and skin missing ventral to dorsal fin. Circular bite with blubber missing. Cranial genital area, dorsal peduncle- multiple semicircular bites with blubber missing and into abdominal cavity with evisceration of intestines due to shark bite. Bruising of cheek on left side. Left peduncle- multiple semicircular rake marks.

INTERNAL EXAM:

BLUBBER: Sub-blubber fascia was edematous from caudal to blowhole to cranial dorsal fin. Blubber had hemorrhagic bruising with focal areas of necrosis. These corresponded to traumatic conspecific rake marks on skin surface. Some of these lesions appeared to have occurred several days before. Several lesions had necrosis extending from skin to sub-blubber fascia.



MUSCULOSKELETON

Axial Muscle: Subcutaneous tissue was dry around peduncle. Hemorrhaging and bruising on lower jaw, right axilla. There was a large bruise on the blubber and muscle over the back of the skull. No fractures found.

Axial Skeleton: Left shoulder joint had yellowish gelatinous fluid.

Ribs & Sternum: No fractures seen.

CIRCULATORY SYSTEM

Heart: No parasite seen. Valves normal. Approximately 20 mls of serosanguineous fluid in pericardial sac. Edema on the ventral aspect of the pleural cavity.

RESPIRATORY SYSTEM

Blowholes: No parasites seen. Blowhole cytology was negative for parasite eggs.

Lungs: Bilateral generalized granulomatous pneumonia. Many thin white worms were found with some in the granulomas. Mucosa of left lung had a few approximately 4 cm areas of hemorrhaging. 40 mls of serosanguineous fluid in left pleural cavity. Generalized white petechial discoloration of the lung surface.

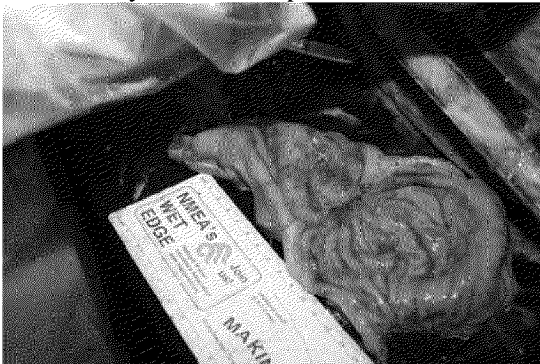
DIGESTIVE SYSTEM

Esophagus: The muscle surrounding the cranial esophagus was dark red, hemorrhagic. Esophageal mucosa was normal. No ulcers seen. No food in esophagus.

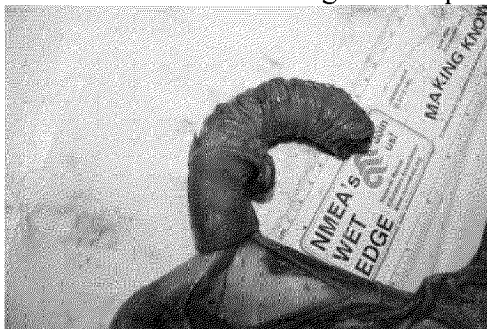
Fore Stomach: Approximately 1 rounded tablespoon of otoliths and fish lens. No ulcers seen. No food found. No parasites found.

Main Stomach: Few otoliths found. No parasites found.

Pyloric Stomach: Two Branini sp found. Mucosa had ecchymotic and petechial coalescing dark green discoloration. There were also 4 red ecchymotic lesions. Large amount of yellow fluid present.



Intestine: Twelve cm long intussusception found in intestines.



Describe food-stuffs found in GI Tract: Otoliths and fish lens only. No food.

Describe parasites found in GI Tract: Branini sp in the pyloric stomach.

Liver: Dark red ecchymotic solitary lesions. Several 6 mm indentations with slight brownish red discoloration

Pancreas: Bile canals very large. Bile was light greenish yellow and large amount. Pale pancreas. 2 objects found resembled parasites (flukes).

URINARY SYSTEM

Kidneys: Right kidney was severely bruised on the caudal pole. Both kidneys had hemorrhaging from the medulla of the reniculi. No kidney stones were found.

Adrenals: Normal color and size.

Urinary Bladder: Not found. Sharks had removed part of the genital area.

ENDOCRINE & HEMOLYMPHATIC SYSTEMS

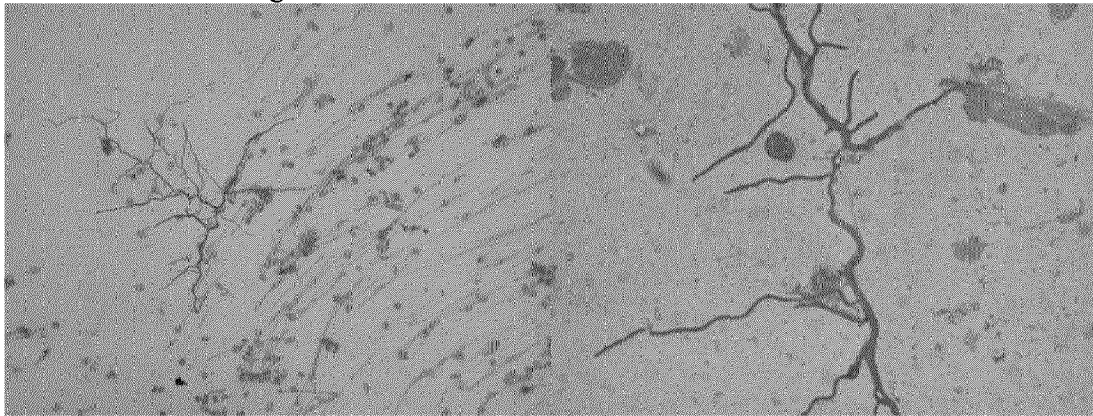
Thymus: Present. Light pink.

Thyroid: Dark red.

Pituitary: Light reddish brown.

Spleen: Serosa had black ecchymotic lesions. Parenchyma had a few ecchymotic dark red lesions.

Lymph Nodes: Prescapular lymph nodes were hemorrhagic with dark brown, necrotic center. Impression smear showed fungal hyphae. Gastric, pancreatic and colonic lymph nodes were hemorrhagic with dark center.



REPRODUCTIVE TRACT: Ovaries were missing- shark predation.

CENTRAL NERVOUS SYSTEM

Brain: Slight amount of hemorrhaging in cerebellum. Evidence of trauma on the back of the head.

Spinal Cord: Blood present in the spinal canal surrounding the spinal cord.

HEAD

SENSORY ORGANS

Eyes: Cornea clear on both eyes.

Ears: Ear canals clear.

CONCLUSIONS: Severe conspecific trauma with fresh and healing conspecific rake marks, sub-blubber edema extending from blowhole to dorsal fin on dorsal back and bruising of blubber and subcutaneous membranes. The blubber under the conspecific rake marks had hemorrhaging, necrotic tissue and bruising so these were considered premortem.

The animal was in a poor state of nutrition indicated by loss of postnuchal fat, indentation below the dorsal fin and visibility of the lateral processes of the vertebrae.

Multiple shark bites with loss of flukes and abdominal musculature. The shark bite edges were clear and did not have any bleeding so this could have been postmortem.

There were multiple healing ulcers in the mouth and gums.

Generalized bilateral granulomatous pneumonia, verminous etiology suspected.

Twelve cm intestinal intussusception found.

Multiple hemorrhagic lymph nodes some with necrotic center. Impression smear of prescapular lymph node showed fungal hyphae.

There appeared to be a chronic, systemic disease debilitating the animal with trauma caused by conspecifics. It is possible the animal was extremely debilitated when the sharks attacked and caused the demise or the animal was fresh dead and the sharks attacked.

Carcass Disposition: BP Evidence truck freezer at IMMS

CAUSE OF DEATH FROM FIELD DETERMINATION:

This report was generated by: Dr. Connie Chevis and Dr. Joey Kalesch

TISSUES COLLECTED

Frozen: IMMS X2

Blubber

Muscle

Liver

Teeth

Kidney-L, R

Histo (10% Buffered Formalin): DROT x2, IMMS X2

Lung

Trachea

Heart- R, L Atrium, R,L Ventricle.

Aorta

Pulmonary artery

Tongue

Tonsil

Esophagus

Stomach
Duodenum
Jejunum
Ileum
Colon
Pancreas
Spleen
Liver
Brain
Eyes
Kidney
ureter
Blubber
Bone marrow
Spinal cord
Adrenal
Skin
Muscle
Uterus
Mammary gland
Mouth ulcer
Lymph nodes- L. prescapula, tracheobronchial, colonic, mesenteric, gastric
Pituitary

Hydrocarbon: X2

Blood- Heart
Bile
Liver
Kidney
Muscle
Lung
Intestine
Blubber

Viral: Dr. Romero

Lung
BH swab
Feces
Brain- Cerebrum, cerebellum
Spinal cord
Spleen
Liver
Kidney
Mouth tissue- ulceration
L prescapular ln
Pericardial sac fluid

Culturettes: Memorial Hospital Gulfport for bacterial culture and sensitivity and fungal culture

Mouth ulcer swab- **Results:** 4+Vibrio parahaemolyticus, 4+ Vibrio damsela, 4+ Vibrio

alginolyticus. 11/8/10- Scant mold isolated, 2+ Mold isolated.

L prescapular ln swab- **Results:** 4+ *Vibrio alginolyticus*

Pericardial sac fluid swab- **Results:** 4+ *Vibrio damsela*, Scant- *Vibrio parahaemolyticus*

L kidney swab- **Results:** 4+ *Vibrio damsela*, 3+ *Vibrio alginolyticus*, 3+ *Vibrio parahaemolyticus*

L lung swab- **Results:** 4+ *Staphylococcus*, coagulase negative, 3+ *Vibrio parahaemolyticus*

Tissues for zygomycosis culture:

L prescapular ln- **Results:** 4+ *Vibrio alginolyticus*, 4+ *Vibrio parahaemolyticus*, 4+ Beta hemolytic streptococcus, Beta-strep, Non- A,B,C,C,F,G- unable to serotype

Mouth ulcer tissue biopsy- **Results:** *Vibrio parahaemolyticus*

Parasites to Dr. Robin Overstreet:

Branini sp from pyloric stomach in Bouins + 95% alcohol

Lung worms in formalin

Pancreatic worms in formalin

PHOTOS/VIDEO: Yes/No

ASSOCIATED DATA SHEETS: Level A Data Form, Delphinid Specimen record, NOAA Photo Log, NOAA Chain of custody record.