

DIAGNOSTIC CASE REPORT

NATIONAL BIOLOGICAL SERVICE
NATIONAL WILDLIFE HEALTH CENTER-HONOLULU FIELD STATION
P. O. BOX 50167, 300 ALA MOANA BLVD., Rm. 5302
HONOLULU, HAWAII 96850
808-541-3445, FAX 541-3472, R8_NWHR.HON@NBS.GOV

Case # 12412

Epizoo # _____

Submitter:

Mr. George Balazs
NOAA-NMFS-SWFC
2570 Dole Street
Honolulu, HI 96822-2396

Specimen description/identification:

1 hawksbill turtle carcass

Date Submitted: (08/19/95)
(mm/dd/yy)

Date Collected: (08/19/95)
(mm/dd/yy)

Date Examined: (08/19/95)
(mm/dd/yy)

Location: Kealia Pond NWR (N. Kihei Rd.)

County/Site: Maui

HISTORY: This animal was found dead on North Kihei Road on Kealia Pond NWR (Maui) at 1 a.m. on 8/19/96.

SIGNIFICANT FINDINGS: Grossly, there was a large fissure down the midline of the shell exposing the internal organs. There were large amounts of red fluid and albumin in the body cavity, the liver and kidneys were macerated and large numbers of fully formed and developing eggs were noted in the animal. Histology revealed bleeding in the kidneys and lung and diffuse inflammation of abdominal organ secondary to contact with albumin and perhaps intestinal contents.

DIAGNOSIS: Trauma secondary to vehicle strike.

COMMENTS: Gross lesions were indicative of an animal that suffered from acute severe trauma. Histology confirmed gross diagnoses. There was multiple inflammation of the surface of abdominal organs in response to release of albumin and possibly gastrointestinal material into the body cavity. This inflammation indicated the animal survived for some time after the traumatic incident. The animal was infected with flukes as evidenced by presence of rare eggs in the lungs and intestines. Fluke infestation was nowhere as severe as that observed in green sea turtles. The vascular inflammation was mild and its cause undetermined.

MANAGEMENT: A meeting was held in Maui to discuss possible options to prevent vehicle strikes in hawksbill turtles. Some options discussed included use of flashing signs, redesign of road, use of volunteers to look for turtles, and fencing off of beaches to vehicles.

_____ Preliminary Report (/ /) _____ X _____ Final Report (10/01/96)
date date date

Necropsy report is: _____ enclosed _____ X _____ available upon request.

: Copies of this report sent to:

-Ms. Kathy Smith (USFWS)
-Ms. Karen Rosa (USFWS)

Pathologist: Thierry M. Work MS, DVM, MPVM

If you have questions regarding this case, contact Thierry M. Work MS, DVM, MPVM
at 808-541-3445. Include above Case Number. Diagnostic findings may
not be used for publication without the pathologist's knowledge and consent.

Histopathology (Cont.)

Ventriculus: No remarkable lesions are observed.

Spleen: In one section, there are prominent infiltrates of mixed granulocytes and mononuclears near the adventitia of a large artery. There are also rare trematode eggs present in the splenic white pulp.

Kidney: There are moderate numbers of proximal tubular cells containing variably sized intracytoplasmic hyaline droplets mainly concentrated near the luminal surface. There are also occasional large vessels with prominent perivascular or intramural cellular infiltrates composed of mononuclears and granulocytes. In another section, within perirenal fatty and connective tissue, there are massive infiltrates of red cells mixed with variably sized clumps of basophilic material (albumin).

Small Intestine: There are areas on the serosa where serosal cells appear columnar, hypertrophied and packed with variably sized eosinophilic granules. Occasional clumps of pleomorphic basophilic material are noted on the serosa. One section contains a single trematode eggs surrounded by macrophages.

Large Intestine: The serosa is diffusely coated with basophilic pleomorphic material. There are also diffuse aggregates of basophilic rods coating the serosa.

Morphologic Diagnoses:

- 1) Severe, diffuse, acute, hemorrhage, capsule, kidney.
- 2) Moderate, multifocal, acute, hemorrhage and albumin aspiration, lung.
- 3) Moderate, focal, acute, inflammation, capsule, liver.
- 4) Moderate, multifocal, acute, inflammation with albumin, serosa, small intestine.
- 5) Mild, acute, focal, inflammation, arterioles, spleen, kidney.

Comments: Gross lesions were indicative of an animal that suffered from acute severe trauma. Histology confirmed gross diagnoses. There was multiple inflammation of the surface of abdominal organs in response to release of albumin and possibly gastrointestinal material into the body cavity. The presence of albumin is compatible with leakage of albumin in the pleuroperitoneal cavity as seen grossly. The animal was infected with flukes as evidenced by presence of rare eggs in the lungs and intestines. Fluke infestation was nowhere as severe as that observed in green sea turtles. The vascular inflammation was mild and its cause undetermined. The gastrointestinal trematodes have been reported from hawksbill turtles from Cuba, Puerto Rico, India and Australia and were considered an incidental finding.

Final Diagnosis (in order of importance)

	topog.	morph.	etiol.	funct.	disease	link
1. <u>Trauma</u>	(T10050)	()	(E90020)	()	()	()
2. _____	()	()	()	()	()	()
3. _____	()	()	()	()	()	()

Diagnostic findings may not be used for publication without the pathologist's knowledge and consent. COD (09)

NATIONAL WILDLIFE HEALTH CENTER
NECROPSY REPORT

Submitter's Name, Affiliation Address

Mr. George Balazs
NOAA-NMFS-SWFC
2570 Dole Street
Honolulu, HI 96822-2396

Case: 12412
Accession: 001
Collected: 08/19/96
Exam Date: 08/19/96
Pathologist: T.M. Work
Prosector: T.M. Work

Species: Hawksbill turtle Specimen: Carcass
Bandtype: (N) Ref/Band No: () Euth: (N) Weight (Gm): (104545)
History Summary: This animal was found dead on North Kihei Road on Kealia Pond NWR (Maui) at 1 a.m. on 8/19/96.

EXTERNAL/INTERNAL OBSERVATIONS - LABORATORY RESULTS

External: The entire shell is cracked midline with a single fissure extending from head to tail. There are several large lateral fissures extending 8 to 12 inches from the midline. One of these lateral fissures is on the left side and four are on the right side indicating that the animal may have been hit initially on the right side. The internal organs are exposed. The animal is in a dorsal presentation and internal organs are examined through the shell crack in situ. The head and flippers are not examined.

Internal: There are large amounts of red fluid mixed with egg yolk within the pleuroperitoneal cavity. The liver is firm, smooth, homogenous brown and macerated. The heart is firm, smooth, homogenous pink and otherwise unremarkable. The lungs are spongy and homogenous dark pink. The spleen is firm, smooth, homogenous purple and measures -8 X 5 cm. The kidneys are firm, smooth, and homogenous red-brown. The left kidney is macerated. The brain is not examined. The oviduct is smooth, homogenous tan-pink with >100 maturing follicles. Approximately 100 fully formed eggs were removed prior to necropsy and -70 eggs were removed during necropsy. The esophageal mucosa is smooth and homogenous tan. The stomach mucosa is smooth homogenous pink. Red flukes measuring 1.2 cm long are lightly adhered to the stomach mucosa. The small and large intestines are smooth homogenous pink. There are occasional small, firm, fleshy nodules on the gut wall that seem to merge with large arteries. The small intestines contain small bits of coral and moderate amounts of green fluid. The large intestines contain no feces. No lesions are seen in the pericardial sac, heart valves, gastrointestinal mucosa and serosa, ovary, and superficial and cut surface of heart, kidney, spleen, and lungs.

Preliminary Diagnosis: Trauma Exam Type: (GO)
Sex (F) Age (A)/() Body Cond. (G) Postmortem State (G) Giz. Lead ()/()
Laboratory Tests/Samples Saved:
1. Histo: Lung (A-B); spleen (C); liver (D); kidney (E-F); heart (F-H); large artery (I); small intestine (J-L); stomach (L); large intestine (M); oviduct (N).
2. Frozen: stomach contents.
3. Saved: flukes - small intestine.

PARASITOLOGY:

The parasites in the turtle were Diaschistorchis pandus. (Michael Kinsella)

HISTOPATHOLOGY:

Lung: There are variably sized clumps of deeply basophilic globular material within the small airways. These are occasionally associated with clumps of red cells and clumps of fibrin and degenerating thrombocytes. Rare mononuclear infiltrates are noted within smooth muscle walls. Within the smooth muscle wall of one section, there are the remains of a trematode egg accompanied by little to no inflammatory response.

Large artery: No remarkable lesions are observed.

Liver: Focally, some capsular cells appear hypertrophied and vacuolated with intracytoplasmic accumulations of variably sized round basophilic to eosinophilic granules that appear aggregated away from the capsular surface. Occasional clumps of fibrin mixed with red cells and thrombocytes are noted adhered to endothelium of venules.

Heart: There are rare focal mononuclear infiltrates within the myocardium.