

Necropsy Report
Killer Whale (orca) Shawn
Age 2 yrs — SeaWorld of California

Name: Shawn (female)

Species: Killer Whale (*Orcinus orca*)

Source: wild capture, 1978, SE Coast of Iceland, age: est. 1 yr

Deceased: morning 09-03-1979, SeaWorld of California, age: est. 2 yrs

Reported cause of death (per NMFS MMIR data): Pneumonia

Necropsy info:

Diagnosis- Lanny H. Cornell, DVM (1979): 1) Uremia. 2) Peracute (viral) infection.

Diagnosis- AFIP (1979): 1) Bronchopneumonia, acute to subacute, fibrino-purulent, extensive, severe, lungs, female, killer whale (*Orcinus orca*), Cetacea, bacterial origin. 2) Necrosis and fatty degeneration, diffuse, severe, liver. 3) Congestion, passive, severe, diffuse, spleen.

Diagnosis- Lynn A. Griner, DVM (1979): Acute bacterial pneumonia. The pneumonia in this animal somewhat resembles bovine shipping fever.

Notes: Prior to reforms of the Marine Mammal Protection Act (MMPA) in 1994, holders of marine mammals for public display were required to submit necropsy reports (animal autopsy reports) for deceased animals, making the documents available to the public and scientific community. Presently, marine mammal parks in the U.S. are only required to provide a “cause of death” to the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) which maintains Marine Mammal Inventory Reports (MMIR). Details of marine mammal deaths are now a closely guarded secret at U.S. entertainment facilities.

The Orca Project acquired the following documents from the National Marine Fisheries Service (U.S.A) via the Freedom of Information Act for deaths that occurred prior to implementation of the 1994 MMPA changes.

For more information visit www.theorcaproject.com

Necropsy, Autopsy, Veterinarian, NOAA, NMFS, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, MMIR, Marine Mammal Inventory Report, MMPA, Marine Mammal Protection Act, Killer Whale, Orca, Shamu, Death, Die, SeaWorld, San Diego, California, Shawn

SAN DIEGO, CALIFORNIA

NECROPSY REPORT

PATH. NO.: SW 79093

I.D. NO.: KW-7802

ANIMAL NAME: _____

GENUS/SPECIES: Orcinus orcaSEX: M F X DATE/TIME OF DEATH: 9/3/79 (AM)DATE/TIME OF NECROPSY: 9/3/79 (AM)

CLINICAL HISTORY PRIOR TO DEATH:

Decreased activity and anorexia was noted on August 28. This behavior continued and treatment was instituted. The condition worsened and the animal died on 9/3/79.

GROSS NECROPSY FINDINGS:

WEIGHT: 1100 lbs.LENGTH: 326 cm.

GIRTH: _____

Integument: No significant lesions.

Respiratory System: The trachea contains a pink, foamy substance. The lungs are heavy pink-brown with a mottled appearance. The capsular surface has numerous petechial hemorrhagic areas. On cut section there is evidence of moderate to severe congestion with associated severe pulmonary edema throughout the parenchyma. Fibrinous broncho pneumonia evident throughout.

Digestive System: The esophagus reveals no significant lesions. The forestomach is empty and the mucosa is moderately sloughed. The glandular stomach has a small quantity of semi-digested fish. The mucosa reveals no significant lesions. The small and large intestines contain a dark brown-black mucoid ingesta. There is a moderate tapeworm infestation in the small intestines. The liver is purple-brown with a roughened capsular surface and swollen edges. On cut section there is evidence of moderate congestion. The abdominal cavity contains about 3 liters of a yellow clear fluid that has a very strong urine odor.

(Continued on back.....)

(. . . . continued) (

Lymphatic System: The bronchial, prescapular, hepatic and mesenteric lymph nodes are soft, swollen tan-gray. On cut section there is evidence of darkening in the medullary region. The spleen is moderately enlarged, purple with numerous fibrin tags on the capsule. The cut section reveals severe congestion and the parenchyma is jelly-like.

Musculoskeletal System: The musculature in the inguinal region is bruised and hyperemic and discolored dorsal and ventral to the urinary bladder. There is a large quantity of clotted blood near the neck of the bladder. The remainder of the system reveals no significant lesions.

Endocrine & Exocrine System: The adrenal glands are tan-brown and appear to be slightly atrophied. On cut section there is slight congestion in the medullary-cortical region. The pancreas reveals no significant lesions.

Cardiovascular System: The heart is of normal shape and size and is slightly pale in color. On cut section the myocardium is slightly pale. The remainder of the system reveals no significant lesions.

Urinary System: The kidneys are dark brown and of normal shape, size and consistency. On cut section there is evidence of moderate congestion. The urinary bladder has a small quantity of a milky red thick mucoid urine. The mucosa has several small petechial hemorrhagic areas.

Reproductive System: The ovaries are tan small and inactive. The uterus reveals no significant lesions.

Nervous System: Not examined.

PARASITES:

<u>ORGAN/TISSUE</u>	<u>STAGE</u>	<u>SPECIES</u>	<u>DESCRIPTION</u>
small intestine	adult	tapeworm	white segmented
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

CULTURES TAKEN:

<u>ORGAN/TISSUE</u>	<u>I.D.</u>
Lungs	_____
Liver	_____
Kidney	_____
Spleen	_____
Spinal Fluid	_____
Synovial Fluid	_____

HISTO. TAKEN:

Kidney	ovaries
Liver	muscle
Spleen	blubber
Adrenal Gland	eyes
Intestine	pancreas
Cardiac M.	_____
Lung	_____

DIAGNOSIS: Awaiting histopathology and bacteriology. 1) Uremia.
2) Peracute (viral) infection.

BY: B. Golden
BY: L. Cornell



ARMED FORCES INSTITUTE OF PATHOLOGY
WASHINGTON, D.C. 20306

PATIENT IDENTIFICATION	PLEASE USE AFIP ACCESSION NUMBER IN ALL CORRESPONDENCE
AFIP ACCESSION NUMBER: 1727105 A-REG	
ANIMAL, CETACEA, WHALE A-079093-00	
PLEASE INFORM US OF ANY IDENTIFICATION ERRORS	

Dr. Lanny Cornell
Sea World
1720 South Shores Road
Mission Bay
San Diego, CA 92109

ECC/HWC/cg
ADDRESS REPLY TO THE DIRECTOR
ATTN: AFIP - CPII-C

30 JAN 1980

CONSULTATION REPORT ON CONTRIBUTOR MATERIAL

Dear Doctor Cornell:

Thank you for submitting this interesting case to the Registry of Comparative Pathology. Your case number is SW-79093.

AFIP DIAGNOSIS:

1. Bronchopneumonia, acute to subacute, fibrino-purulent, extensive, severe, lungs, female, killer whale (Orcinus orca), Cetacea, bacterial origin.
2. Necrosis and fatty degeneration, diffuse, severe, liver.
3. Congestion, passive, severe, diffuse, spleen.

Comment: The pneumonic lesions were severe and diffuse and they appeared to be of recent duration as evidenced by extensive hemorrhage, congestion and fibrino-purulent exudate. Large colonies of mixed bacteria were present but most were gram-positive cocci arranged in large clusters, morphologically resembling the genus Staphylococcus. Large areas of necrosis and fatty degeneration were noted in the liver and we believe that these were secondary changes related to the primary pneumonic lesions. A very interesting case for which we are pleased to add to our collection on diseases of marine mammals.

Sincerely,

ELGIN C. COWART, JR.
CAPT MC USN
The Director

Prepared by:
Harold W. Casey
Harold W. Casey, Colonel, USAF, VC

[Signature]
John H. Mansueti, M.D.
Chief, AFIP
Regist. Director

October 11, 1979

Sea World,
1720 South Shores Road,
San Diego, Ca. 92109

Att'n: Dr. Lanny Cornell

HISTOPATHOLOGY ON KILLER WHALE

#SW 093

The gross autopsy report has been submitted previously, but as a review, the lesions were largely confined to the respiratory system, which showed gross evidence of pulmonary edema and pneumonia, with some red and gray hepatization

CARDIOVASCULAR: The heart: No lesions were seen in the heart or in the vasculature.

RESPIRATORY: The lungs: Histologically the lesions in the lungs were characterized by an acute fibrino-purulent pneumonia. Numerous neutrophils filled the alveoli and many of the bronchi. Along with the neutrophils was a considerable amount of edematous fluid and fibrin. Colonies of bacteria, which appeared to be small bacilli, were found in many alveoli and bronchi.

DIGESTIVE: The liver revealed evidence of focal necrosis with hemorrhag There were scattered areas of a periportal inflammation, characterized by lymphocyte infiltration. Some of the sinusoids within the liver contained a few neutrophils and there appeared to be some hyperplasia of Purkinje cells or other reticuloendothelial cells. Sections of the intestine revealed erosions and focal areas of necrosis. These lesions perhaps could be related to post mortem autolysis.

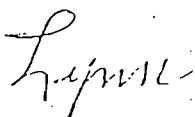
HEMOPOIETIC: The spleen was massively congested and hemorrhagic. The spleen, along with the lymph nodes, appeared to have undergone some suppression of lymphopoiesis.

UROGENITAL: The kidneys were essentially normal. There was a slight increase of proteinaceous fluid within Bowman's capsule.

ENDOCRINE: The adrenal glands were normal.

NERVOUS: The spinal cord was normal.

DIAGNOSIS: Acute bacterial pneumonia. The pneumonia in this animal somewhat resembles bovine shipping fever.



Lynn A. Griner, D.V.M., Ph.D

CETACEAN DATA RECORD

Species: Orcinus orca Sex: F Length: 325 cm Weight: _____
 Observer: Jim Antrim, Kim Williams, Tom Coff Date/Time of Death: 9/3/79; 0100, of _____
 Locality: _____

Circumstances of stranding, death, etc. _____

External description (carcass condition, wounds, scars, pigmentation, _____

_____ ; photo record: _____ Drawings (on Second Page)
 Tooth or baleen counts: Upper left 12 Upper right 12
 Lower left 11 Lower right 11
 Diameter largest tooth _____ Color of baleen _____
 Comments (wear, etc). _____

EXTERNAL MEASUREMENTS

INSTRUCTIONS:

All measurements, except those marked with an *, are taken in a straight parallel to the body axis. The marked ones are taken point to point. Measurements are shown by number on the drawings on the second page. Fill out a separate form for fetuses.

Units of Measure (Metric System Preferred) cm

Snout Tip to:

- 1) apex of melon 12
- 2) angle of mouth 43
- 3) center of eye 47
- 4) posterior margin of blowhole 56
- 5) ear 64
- 6) posterior extremity of throat grooves
- 7) pectoral flipper (anterior insertion) 83
- 8) dorsal fin base center 165
- 9) dorsal fin tip 190
- 10) center of umbilicus 170
- 11) center of genital slit 232
- 12) center of mammary slit 230
- 13) anus 238
- 14) fluke notch (total length) 325
- 15) rostral, at apex of melon 70
- 16) at eye 142
- 17) immediately behind pectoral flipper 196
- 18) maximum distance from snout tip 204, 139
- 19) at anus 104
- 20) midway anus to fluke notch 76
- 21) height, midway anus to fluke notch* 32
- 22) thickness, same place* 17
- 23) Projection lower jaw beyond upper upper overhangs
(state if reversed) lower by 3.5
- 24) center of eye to ear 18
- 25) center of eye to angle of mouth* 8
- center of eye to blowhole edge (right)* 35
- center of eye to blowhole edge (left)*

- 28) Eye aperture length
- 29) Blowhole lengths Right 3 Left
- 30) Blowhole maximum width*
- 31) Diameter of ear opening Right PP Left
- 32) Diameter of head between eyes*
- Throat & Ventral Grooves
- 33) number Throat _____ Ventral (between pees) _____
- 34) maximum length
- 35) minimum length
- Mammary Slit
- 36) number
- 37) length Right 5.5 Left
- 38) distance between them
- 39) Genital slit length
- 40) Anal slit length
- 41) Distance between anal and genital slits (males)
- Flipper right pectoral
- 42) anterior length* 4
- 43) posterior length 3
- 44) maximum width* 2
- Dorsal Fin
- 45) height* 2
- 46) base length 31
- Fluke
- 47) width tip to tip* 8
- 48) right lobe, tip to notch* 4
- 49) notch to nearest point on anterior border* 2.5
- If the Animal Is a Calf:
- 50) number fetal folds
- 51) number rostrum hair follicles Right _____ Left _____
- 52) length rostrum hair follicles max. _____ min. _____

CETACEAN DATA RECORD

Weights (Units Used _____)

Intact Carcass _____ Muscle _____ Blubber _____
Viscera _____ Bone _____

Internal Measurements, Observations, Etc.

Internal Organs, etc: Weights, and/or measurements (L/W/D) and/or Remarks

Blubber: depth at midlength:

Middorsal 3.5 Midlateral 3 Midventral 4.5

Muscle

Pleural Cavity

Abdominal Cavity

Diaphragm

Oral Cavity

Salivary Sacs, Nasal Sinuses

Thyroid

Trachea

Trachea, Bronchi

Lungs, Right

Left

Pericardium

Heart

Gall Bladder, Bile Duct

Liver

Spleen

Intestines

Kidneys, Right

Left

Uterus, Right

Left

Lymph Nodes

Brain

Teeth

Remarks (general comments)

Esophagus

Stomach (Distinguish fore, main and pyloric: include condition and quantity in contents description).

Cause of Death and/or Contributing Factors: _____