Necropsy Report
Killer Whale (Orcinus-orca) Canuck II
Age 6 yrs — SeaWorld of California

Name: Canuck II (male)

Species: Killer Whale (Orcinus orca)

Source: wild capture, 10-12-1977, Ingolfshofdi coast, Iceland, age: est. 2 yrs

Deceased: 6:30 a.m., 08-02-1981, SeaWorld of California, age: est. 6 yrs

Reported cause of death (per NMFS MMIR data)**:** Chronic Kidney Disease

Necropsy info: Diagnosis- John G. Simpson, DVM (1981): Granulomatous Nephritis
Diagnosis- AFIP- Sidney R. Jones, DVM (1981):
1. Candidiasis, systemic, severe, heart, lymph nodes, kidneys, male, killer whale (Orcinus orca), Cetacea, due to Candida sp.
2. Granuloma, parasitic , severe, lymph node, due to a trematode, genus and specie undetermined.
3. Plasma cell aggregates, diffuse, moderate, liver.

Diagnosis- Lanny H. Cornell, DVM , Brian J. Golden, DVM (1981):
1. Pyelonephritis
2. Sclerotic nephrodecompensation.

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, Canuck II, Canuck 2

_A_N_I_M_A_L _P_A_T_H_O_L_O_G_Y _S_E_R_V_I_C_E_S

John G. Simpson DVM
923 Garrido Drive
Camarillo, Ca. 93010
Ph. 805 498 3684

SPECIES O.orca, M., SWC-Oo-7705 CASE #9-81:6923

SPECIMEN Necropsy tissues DATE 9-21-81

BY Drs. Golden and Cornell ADDRESS Sea World San Diego, Ca.

OWNER Sea World, Inc.

PATHOLOGY REPORT

DIAGNOSIS Granulomatous Nephritis

FINDINGS

Lung	Other than congestion, lung tissue appears normal.
Liver	Multi-focal areas of plasma cell infiltrates are seen throughout the otherwise normal, but congested parenchyma.
Kidney	Irregular sized, multiple granulomata and associated tubular necrosis are seen here throughout the cortex and medulla. In the center of some granulomas, sheets of small coccoid bodies are noted. These may be fungi and further tests will be done. If a specific identification can be made, a supplimentary report will be sent to you.
Heart	Although several sections were examined, no evidence of the white foci noted grossly, could be seen microscopically. The muscle appeared normal.
Pancreas	Nothing significant found.

(Cont. next page)

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NECROPSY REPORT (continued)

Spleen	Splenic follicles are active, and pulp generally congested. Plasma cells are present in unusually large numbers.
Lymph Node	Hyperplasia, edema, and congestion are noted.
Adrenal	Nothing significant found.

COMMENT

A specimen, which could not be identified as to site of origin (possibly intestine) is characterized by a dense, collagenous stroma, in which fluke eggs and associated inflammatory change are seen.

JOHN G. SIMPSON DVM

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

PATIENT IDENTIFICATION	PLEASE USE AFIP ACCESSION NUMBER IN ALL CORRESPONDENCE
AFIP ACCESSION NUMBER:	1807217 -3 1 SEQ 00
ANIMAL, CETACEA, WHALE SW-81077-00 A-REG T NL	
PLEASE INFORM US OF ANY PATIENT IDENTIFICATION ERRORS	

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

WRC/SRJ/cg

ADDRESS REPLY TO THE DIRECTOR
ATTN: AFIP -
CPU-V

7 December 1981

CONSULTATION REPORT ON CONTRIBUTOR MATERIAL

Dear Doctor Cornell:

This is a follow-up on the case you donated to the Registry of Comparative Pathology. Thank you for this contribution; your case number SW81077.

AFIP DIAGNOSIS:

1. Candidiasis, systemic, severe, heart, lymph nodes, kidneys, male, killer whale (Orcinus orca), Cetacea, due to Candida sp.
2. Granuloma, parasitic, severe, lymph node, due to a trematode, genus and specie undetermined.
3. Plasma cell aggregates, diffuse, moderate, liver.

Comments: This is an excellent example of systemic candidiasis. The cardiac lesions were similar to a previous case in a killer whale (AFIP 1695430). There was diffuse involvement both renal cortex and medulla. This is our first experience to examine nephritic lesions of candidiasis in whales. The severe and systemic lesions of candidiasis suggests that the animal was immunosuppressed. The granuloma in the lymph node contained fragments of an adult trematode and numerous yellow eggs.

Sincerely,

WILLIAM R. COWAN
Colonel, USAF, MC
The Director

Examining and Reporting Pathologist
Sidney R. Jones DVM PhD
Sidney R. Jones, Col., USAF, BSC(VC)
Chairman, Department of Veterinary Pathology

ROBERT F. KARNEI, JR.
CAPT MC USN
Deputy Director

AFIP F/L 61 (1 May 74)

SEAWORLD, INCORPORATED
SAN DIEGO, CALIFORNIA

PATHOLOGY NO. SW 8107
COLLECTION NO. SWC-00-7

CETACEAN DATA RECORD

Species: Orcinus orca Sex male Length _____ Weight 2150 l
Observer _____ Date/Time of Death 8/2/81; 0630, of data
Locality _____

Circumstances of stranding, death, etc. _____

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

_____; photo record: Drawings (on Second Page)

Tooth or baleen counts: Upper left _____ Upper right _____
Lower left _____ Lower right _____

Diameter largest tooth _____ Color of baleen _____

Comments (wear, etc). _____

EXTERNAL MEASUREMENTS

INSTRUCTIONS:

All measurements, except those marked with an *, are taken in a straight l parallel to the body axis. The marked ones are taken point to point. Ind cate if done otherwise. Measure to the center of the apertures. Measurem are shown by number on the drawings on the second page. Fill out a separat form for fetuses.

Units of Measure (Metric System Preferred) cm

Snout Tip to:

1) apex of melon 20
2) angle of mouth 50R
3) center of eye 54
4) posterior margin of blowhole 64
5) ear 74
6) posterior extremity of throat grooves ..... ___
7) pectoral flipper (anterior insertion) 95R
8) dorsal fin base center 220
9) dorsal fin tip 265
10) center of umbilicus 203
11) center of genital slit 264
12) center of mammary slit 286
13) anus 296
14) fluke notch (total length). (ventral) 427

Girths:

15) rostral, at apex of melon 90
16) at eye 170
17) immediately behind pectoral flipper 200
18) maximum/distance from snout tip 220/163
19) at anus 160
20) midway anus to fluke notch 102

Caudal Peduncle:

21) height, midway anus to fluke notch* 43
22) thickness, same place* 19
23) Projection lower jaw beyond upper (state if reversed) upper/lower 3
24) Center of eye to ear 24
25) Center of eye to angle of mouth* 9
26) Center of eye to blowhole edge (right)* 41
27) Center of eye to blowhole edge (left)* 7
28) Eye aperture length ..... ___
29) Blowhole length: ..... Right ___ 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 pecs). ___
34) maximum length ..... ___
35) minimum length ..... ___

Mammary Slit

36) number ..... male ___
37) length ..... Right 19 Left ___
38) distance between them ..... ___
39) Genital slit length ..... ___
40) Anal slit length ..... ___
41) Distance between anal and genital slits (males) ___

Flipper

42) anterior length* ..... ___
43) posterior length ..... ___
44) maximum width* ..... ___

Dorsal Fin

45) height* ..... wrinkled ___
46) base length ..... ___

Fluke

47) width tip to tip* ..... ___
48) right lobe, tip to notch* ..... ___
49) notch to nearest point on anterior border* ..... ___

If the Animal is a Calf:

50) number fetal folds ..... ___
51) number rostrum hair follicles: right ___ left ___
52) length rostrum hair follicles: max. ___ min. ___

SEA WORLD, INCORPORATED
SAN DIEGO, CALIFORNIA

PATHOLOGY NO. SW 810
COLLECTION NO. SWC-66-7

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 Remark

Blubber: depth at midlength:
Middorsal 6cm Midlateral 5cm Midventral 6cm

Muscle
Pleural Cavity
Abdominal Cavity
Diaphrahm
Oral Cavity
Air Sacs, Nasal Sinuses
Thyroid
Thymus
Larynx, Trachea, Bronchi
Lungs, Right
Left
Pericardium
Heart
Gall Bladder, Bile Duct
Liver
Spleen
Pancreas
Adrenals, Right
Left
Kidneys, Right
Left
Lymph Nodes
Brain
Others

GI tract (general comments)
Esophagus
Stomach (Distinguish fore, main and pyloric: include condition and quantity in contents description).

Cause of Death and/or Contributing Factors: _____

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PATH. NO.: SW 81077

I.D. NO. SWC-Oo-7705

RASITES:

SAN/TISSUE	STAGE	SPECIES	DESCRIPTION
all & large ntestines	adult	tapeworm	

TURES TAKEN:

SAN/TISSUE	I.D.
liver	
lung	
kidney	
bladder	

HISTO TAKEN:

liver	lung
kidney	pancreas
spleen	testicle
adrenal gland	
lymph node	
cardiac m.	
intestine	

GNOSIS: 1) Pyelonephritis.
2) Sclerotic nephrodecompensation.

BY: BRIAN J. GOLDEN, D.V.M.

BY: LANNY H. CORNELL, D.V.M.