

Pathology Report

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To: [REDACTED]
Department of Conservation
Te Anau

Report Sent: 14/03/2025

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Email:

Species: Cetacean	Breed: Hector's Dolphin	
Age: Adult	Sex: Female	
Owner:		Type: Post Mortem
ID: H347		Prev. Accn.:
Submitted:	At Risk:	Affected: Dead:

History

Found at Big Bay in Fiordland. Recovered, chilled, and air freighted to Massey.

Gross Findings

This adult female dolphin was in a moderate state of post mortem preservation (code 2.5), with some skin sloughing and discolouration of the throat blubber. The tissues of the head showed more signs of decomposition than the rest of the body, with loss of soft tissue around the mandibles and the eyes. The right mandible was fractured into multiple fragments, but there was no associated haemorrhage (damage was inflicted post mortem). Total length was 1405mm. Blubber depths were 10mm dorsally; 9mm laterally; 11mm ventrally. There were numerous skin cracks (exposure to the elements) and scavenge marks over both sides of the body. The dolphin was in poor body condition, with very prominent spinous processes and concave epaxial muscles. The muscles were dry and tacky (dehydration), and there were numerous cestodes in the blubber. The lungs were pink and hyperinflated, with faint rib impressions. A moderate amount of fluid was present in the airways. The pericardial sac contained increased amounts of blood-tinged watery fluid. Several thoracic lymph nodes were subjectively enlarged, with mottled red foci within the parenchyma. The stomach contained a large amount of turbid tan fluid with a few hard prey parts in the squamous compartment and thickened mucosa in the glandular compartment. The kidneys appeared pale. The spleen seemed larger than normal. The uterus was enlarged with linear striations (evidence of a previous pregnancy). The right ovary had multiple follicles while the left was smooth and inactive. The mammary gland was well developed and oozed thick dark yellow material when incised. The large intestine contained thick tacky-to-crumby fecal material adherent to the mucosa.

Histopathology

Histology summary:

1. Heart - severe chronic myocyte degeneration and necrosis with non-suppurative myositis, myocyte mineralisation and focal neutrophilic valvular endocarditis
2. Lung - mild chronic interstitial pneumonia with pulmonary oedema
3. Mammary gland - severe parasitic mastitis
4. Brain - multifocal mild encephalomalacia and gliosis (cerebrum)
5. Liver - mild multifocal hepatocellular necrosis
6. Uterus - mild stromal oedema and metritis (mixed inflammatory infiltrate)
7. Lymph nodes - reactive nodes with focal necrosis

Diagnosis

Disease - unknown cause

Comments

This mature female dolphin had a range of unusual lesions that don't fit any of the 'usual' diseases that we see in Hector's dolphins. The most severe lesions were in the heart, but there were also abnormalities in the lungs, liver and lymph nodes. The thick yellow material that oozed from the mammary glands during the gross post mortem looked

like milk, but under the microscope it became evident that this was actually a discharge containing huge numbers of parasite eggs. This is not something that we've seen here before, and I couldn't find any reports of similar findings in the published literature.

Tissues from the heart, lymph nodes and uterus have been tested for toxoplasma using immunohistochemistry (IHC), and were negative. We will be including further tissues from this dolphin in our next batches of PCR surveillance for Toxoplasma and Brucella, and IHC for morbillivirus. Results will follow.

Date: 14/03/2025	Pathologists: 
Students:	