

**CC 233**

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CC 233 was a male melon-headed whale, *Peponocephala electra* measuring 246 cm long and weighing 185 kg, recovered alive from Marker 3, Padre Island National Seashore, north (Kleberg County, 27 21 670 N, 47 19 320 W, on March 26, 2006. He was found rolling around in the surf. Although outwardly he appeared to be in reasonably good condition, he seemed unstable, and was retained at the Texas State Aquarium for a period of preparation for transport.

By “unstable” is meant shivering, arching, and with episodic palpable slowing of the heart rate. Owing to initial uncertainty about the sex of this animal, examination including ultrasound resulted in the impression of an abdominal tumor. Ultrasound was also interpreted as showing many parasitic cysts in the liver. Clinically, it was thought that he had pneumonia. Because of the instability of the vital signs, and the prospect of an animal that could never be released or maintained in captivity, with the concurrence of National Marine Fisheries, it was euthanized and brought to Galveston for necropsy.

External examination: The animal was a large adult male, with no sign of significant recent injury, apart from recent abrasion at the tip of the rostrum, top and bottom. The body contours were round, with no sign of significant weight loss; i.e., no neck formation. There were many (range of two dozen) well healed scars, typical of cookie cutter shark bites on the ventral and lateral surfaces. The dorsal fin trailing edge had a number of well healed small notches. The teeth were worn down to the gingiva, especially the last four on each side, top and bottom. The most anterior teeth were either worn down or missing in the front,

and upper teeth seemed to enter the sockets of lower teeth. In the middle area, many teeth were intact, but a bit loose, and some were badly worn by malocclusion. All joints were normal.

Internal Examination: Small numbers of phyllobothrium cysts in the blubber in the area of the genital slits. Minimal clear fluid in the peritoneal and pleural cavities. Lung surfaces pink and smooth; no palpable nodules; surface lymphatics slightly prominent. Airways were full of white foam, which poured out after transection of the trachea, typical of congestive heart failure. There was a minimal lung worm infestation, with no obvious granulomas. The heart was a bit dilated, but without appreciable scars. All valves were normal, as were the coronary arteries normal. The tongue had several scars, but otherwise the mouth and gastrointestinal tract were normal except for the second (peptic) chamber of the stomach, which had about a dozen umbilicated mounds about 6 mm diameter. These were caused by parasitic worms in the stomach. The stomach contained a gray slurry, and fish bones, including spine segments, indicating feeding within the day. The liver was normal throughout. There were no parasitic cysts. A very prominent feature was the very large veins, 3-4 cm diameter, in the central portion of the liver, which retained wide diameters to within a short distance of the capsule. One approached to the capsule on the ventral surface, with no intervening liver tissue. The liver seemed relatively small in proportion to the size of the animal (compared to *Tursiops*). Bile ducts were normal; no parasites, and the pancreas was normal. The kidneys, ureters and bladder are all grossly normal. The testes were large, (left 8.5 x 40.5 cm), as was the prostate. Adrenal glands were relatively large and considered normal. The skull was normal. The meninges were clear, but the brain seemed swollen. The cerebellum was adherent to the dura at the site of entry into the skull of the acoustic nerve on the left, a definite abnormality. There was evidence of cerebral parasitism.

The air sinuses were are very large. In both were several dozen large flukes, typical of *Nasitrema sp.* On the left, the lining of the sinus most adjacent to the

ear bone (ossicle) was thick, and inflamed. The bullae of the ossicles (both) were stuffed with flukes. On the right, the bone was very thin and eroded, but on the left, trimming away soft tissue reveals an apparent fracture. General impression from the gross examination was that the animal was in general a probably old animal in good body condition with a very light parasite burden, except for air sinuses. The heavy infestation of the ear bones by *Nasitrema* caused inflammation and erosion of the ear bones. This would certainly have caused hearing and balance problems, and we believe it accounts for stranding. Because of its destructive nature, this lesion was not recoverable, and the animal could never be released. It would likely have had severe balance problems as well as impairment of echolocation, and therefore despite its initial appearance, would not have been a candidate for rehabilitation and adoption by an aquarium.

Comment: There are several lessons in this case. The first is a reminder that adult dolphins strand for a reason, and that the reason is illness or injury. We can contrast the typical sick, stranded animal with the six out-of-habitat dolphins that were recovered from ponds and ditches in Louisiana after hurricane Rita. Even though carried several miles inland by surge, these animals were all vigorous and capable swimmers, and could be released directly into the Gulf. They required no rehabilitation. Another important lesson is the importance of the necropsy in helping interpretation of diagnostic modalities such as echosonography or ultrasound when applied to relatively unfamiliar species. The veins in the liver of this species are very large; considerably larger than the veins in the liver of the bottlenose dolphin. That explains the misinterpretation of the veins as parasitic cysts.

Finally, the answer in this case was found only by examination of the ear bones, which is a tedious process, and sometimes not done at all in an effort to preserve the anatomy of the area. However, as this case shows, it is an essential part of the necropsy. Even a very small lesion, if in a critical place, can bring an animal to the beach. The decision to euthanize an animal is never easy, unless perhaps

there is an obvious mutilating injury. Lacking injury, we always have the hope that we can do something to save the animal, and often we are successful. Sometimes, as in this case, the decision has to be made on less than complete information, based on estimates of an animal's prospects for release into the wild, or to an active life in an aquarium.

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