



Zoological Parks Board
of New South Wales

Australian Registry of Wildlife Pathology

The following are some interesting cases that have passed through the Registry recently. These reports originate from free-ranging animals, and native fauna held in a variety of zoos, fauna parks and private collections.

APRIL 2001

- Little Penguins - eight birds from the Manly colony examined on behalf of NSW NPWS. Rangers thought that the birds had been shot; however, post mortem examination revealed injuries and bite wounds that could only have been inflicted by a large dog (2282.1-8). Following this incident and investigation Manly Council has employed an educational officer to address the issue of dog control with the local community. The NSW Environment Minister has also pledged to begin the process of declaring critical habitat for this colony.
- Kowari - Berrimah Vet Laboratory, NT - mammary carcinoma (2240.1)
- Mala - Berrimah Vet Laboratory, NT - mammary adenocarcinoma and renal *Klossiella* sp. infection (2241.1)
- Cassowary - Cassowary Recovery Program - tissues examined histologically from animal killed along the road (2236.1)
- Black-eared Miner - captive breeding program, Victoria - tissues from one bird with coccidiosis and another septicaemic (2242.1, 2243.1).
- Leopard geckos - Confiscated by NPWS. Died in due to intestinal obstruction caused by ingestion of their when the animals ate their sandy substrate (2283).
- Carpet python - private collection, NSW - case materials logged in the Registry due to the finding of inclusion bodies in the nervous system, consistent with inclusion body disease of boids (2218.1).
- Green sea turtle - NSW NPWS - being rehabilitated at Sydney Aquarium. Euthanased due to ongoing gastrointestinal bloating and failure to pass faeces despite previous intestinal anastomosis to remove a questionable section of intestine. Post mortem examination found a twisted segment of intestine that could not possibly be detected through the surgical hole created in the shell. The turtle was a pseudo hermaphrodite - having a very obvious penis, yet the gonads were ovaries (2208.2).
- Green sea turtle - NSW NPWS - being rehabilitated at Sydney Aquarium. Euthanased due to ongoing buoyancy problems caused by an old propeller injury to the shell (1355.2).
- Carpet python - kept in captivity for NSW NPWS education programs. Died after being presented with respiratory distress. Respiratory distress caused by a narrowing of the trachea due to marked proliferation of lymphoid tissue. Colonies of bacilli are present within the ciliated epithelium of the mesobronchus. Similar bacteria were evident on gram stain, but could not be cultured from fresh tissue. Cilia-associated respiratory bacillus (CARB) infection suspected. This bacterium does not grow in culture. Electron microscopy was used to identify the bacilli among cilia in the mesobronchus. Unfortunately PCR to further confirm the disease is unavailable in Australia. CARB are commonly present along the respiratory tract of rodents and are often associated with lymphoid hyperplasia. This is the first suspected CARB case in a reptile as far as we are aware (2193.1).
- Bourke's Parrots - Victoria - samples from several birds sent to Georgia State University for Polyoma virus testing (positive results). Very few cases of polyoma virus have been confirmed in native parrots due to the necessity to send samples overseas for serology,

PCR (faeces, cloacal swabs) or in-situ hybridisation (formalin fixed then paraffin embedded tissues).

- Long-nosed bandicoot - captive, NSW - Euthanased due to chronic weight loss. An annular gastric carcinoma in situ was found in the pyloric region of the stomach. (2138.1).
- Koala - captive, NSW - biopsy received of a crusty horn growing on the chin. Dermatophytes were isolated within the crust covering proliferative finger-like projections of epidermis, however, no fungi were evident within the crust, epidermis or hair follicles. The histological appearance of the biopsies resembles papilloma-virus infection in other species. Grossly similar lesions are logged in the Registry 35 mm slide file attributed to dermatophytes.

MAY 2001

- Grey-headed flying fox - captive, NSW - haemorrhaged severely into the abdomen from a large, anaplastic mesenteric carcinoma, possibly pancreatic origin (2319.1).
- Turquoise parrot - captive, NSW - euthanasia due to deformity of the eyelids resulting in a very small ocular aperture (2334.1).
- Little Penguin - NSW NPWS - found dead with blunt trauma (parallel lacerations highly suggestive of boat propeller related injury). The penguin had a very large number of goose barnacles attached to the left foot, yet was in excellent body condition (2298.1)
- Little Penguin - NSW NPWS - found with a small linear wound through the skull and into the brain (possible spear injury) (2317.1)
- Pygmy sperm whale - NSW NPWS - stranded in the Hawkesbury River in good condition and pregnant. The whale had an injury at the base of the tail that was consistent with a shark attack, but the injury did not seem sufficient to cause the animal's death. It seems more likely that the animal was in the estuary and then was attacked by a shark (2232.1).

JUNE 2001

- Plains rat - captive, NSW - pneumonia caused by the yeast *Cryptococcus* sp. most likely acquired through contaminated bedding (2382.1)
- Feathertail Glider - captive, NSW - peripelvic fibrous neoplasia (2342.1)
- Norway rat - captive, NSW - found to have non-suppurative pneumonia associated with an extensive infection with cilia associated respiratory bacillus (CARB), an unusual bacterium that does not grow in culture (2325.1).
- Eastern Quoll - Dorrigo, NSW - Submitted by Australian Museum. Puncture wounds consistent with dog attack, unusual dermatitis around tail base and face. No mites, significant bacteria, or fungi isolated. (2371.1)
- Little Penguin - wild, NSW - proventricular perforation and formation of an encapsulated coelomic mass containing very sharp fish spines. (2365.1)
- King Parrot - NPWS - received concurrent reports of King Parrot mortality in Mudgee and along the South Coast. This seems to be an annual occurrence and the NPWS area managers are certain that the King Parrot populations have markedly declined over the last decade. The birds are emaciated, dehydrated and suffering from enteritis. Similar epizootics have been reported in Victoria associated with the presence of trichomonad parasites.
No significant parasites or bacteria detected in the two birds submitted to the Registry. We have difficulty getting access to fresh diagnostic materials, however, since the birds seem to die and decompose quickly after being found ill.
- Euthanasia of a many snakes and a few green iguanas was elected when two carpet pythons in a large group of reptiles confiscated by a state conservation agency were found to have clinical signs and histologic changes consistent with Inclusion Body Disease of Boids. See July report for further details.

JULY 2001

- Completed the histopathology on 44 snakes and 3 green iguanas submitted as part of a large group of confiscated snakes suspected to have Inclusion Body Disease (IBD). Details of the case are undisclosed due to pending legal charges. The case has also been handled as an exotic disease investigation.
Two snakes in the group were euthanased in June due to a 10 - 21 day history of anorexia, head tremors, and abnormal coiling that progressed to loss of righting reflex. Histological examination of these two snakes had revealed intracytoplasmic inclusion

bodies within nerve cell bodies and ependymal cells and extensive Wallerian degeneration in the caudal brainstem. Samples from these two animals were submitted to NSW Agriculture's Elizabeth Macarthur Agricultural Institute for electron microscopy. Particles consistent in morphology with type C retroviral particles were found within the affected nervous tissue. These findings are similar to those described overseas, however, a causal association between the presence of the retrovirus and Inclusion Body Disease has not been firmly established.

It was interesting to note that an additional 10 snakes that had been thought to be clinically normal, had histologic changes consistent with IBD. Although IBD is generally considered to be a disease of pythons and boas, one of the affected snakes was a king snake (colubrid). One reference to a case of IBD is present within the literature, and a more recent article in the *Journal of Veterinary Diagnostic Investigation* (2001, 13:82-86) describes an IBD-like disease in 8 captive palm vipers (colubrids).

Melissa Carlisle et al reported similar clinical and histologic findings in two captive Australian pythons in the *AVJ* (1998:76:98-100). Several histologically similar cases emanating from captive snake colonies in NSW, Vic, SA, and the NT are logged in the Pathology Registry. Funds are being sought to conduct electron microscopy on these logged cases.

- Black-footed tree rat - captive, NSW - aged animal with a tumour in the chest that suddenly caused massive haemorrhage. (2404.1) Lesions in the lung and liver were consistent with chronic congestive heart failure. It is likely that the thoracic mass was restricting cardiac output for some time prior to death.
- Short-beaked echidna - captive, NSW - emaciation, gastritis, and systemic coccidiosis.
- Pygmy sperm whale - NPWS - Severe, acute fracture of the lower jaw, extensive soft tissue injuries, numerous old cookie cutter shark injuries, abscess found in left axillary lymph node (2422.1). The abscess found in the left caudal axillary lymph node seemed to be a localised infection, and there was no evidence of significant systemic infectious disease that may have predisposed the animal to stranding.
- Weddell Seals - submitted by Tracey Rogers of the Australian Marine Mammal Research Centre. Two adult Weddell seals found dead during research work in the Antarctic. The animals both had pneumonia and tests were applied to rule out mycobacteriosis (2417.1). Tests for mycobacteriosis were negative.