



Zoological Parks Board
of New South Wales

Australian Registry of Wildlife Health

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.

DECEMBER 2001

- Eastern Grey Kangaroos - Scone, NSW - young hand-raised animals with nephritis and renal mineralization. Possible nutritional imbalance of calcium, vitamin D and phosphorus. (2550.1, 2550.2)
- Australian fur seal - 70 pups and 2 adult animals found dead at the high tide mark 3-12-02. The median birth date for seals in the area is 1-12-01. The outbreak is being investigated by Snowy River Veterinary Clinic.
- Greater Bilby - captive, NSW - Euthanased due to a large mass between the shoulder blades. The mass was an invasive fibrosarcoma, a tumour type that has been associated with the presence of microchip implants in cats, and small marsupials. A microchip reader and radiographs were used to localise a microchip within the centre of the formalin fixed mass from this bilby. (2582.1)
- Native finches (diamond firetails, zebra finches, painted finches) - captive NSW, VIC, WA - nearly simultaneous reports of finches with nearly identical lesions: A *Cryptosporidium*-like parasite within the proventriculus, fungal infection within the ventriculus, and bacterial overgrowth in the intestine. It is uncertain why the finches all having a combination of what would seem to be opportunistic pathogens. Cryptosporidiosis has been previously reported as a pathogen in native finches.
- Little Penguin - captive, NSW - update from last report. *Mycobacterium intracellulare* isolated from the two Little Penguins with tracheal mycobacteriosis.
- Peregrine falcon - Victoria, rehabilitation centre - severe diffuse vasculitis of uncertain origin. (2586.1)
- Diamond Python - private owner, NSW - Diamond pythons have a history of "not doing well in captivity" and of suffering from "floppy snake syndrome" characterised by ascending flaccid paralysis. Over the last few years we have had several reports of this syndrome, but we only recently received our first affected snake for examination. Microscopic examination of the tissues identified a widespread infection in the brain and muscles with a single celled parasite (*Sarcocystosis*- like organism), but this is likely an incidental finding. Severe inflammatory and degenerative lesions in the brain and spinal cord were associated with the presence of intranuclear inclusions. These inclusions are suggestive of the presence of a virus, but the location of the inclusions is not consistent with classical Inclusion Body Disease (intracytoplasmic inclusion bodies). Electron microscopy will be conducted to further characterise the lesions. 2593.1
- Jungle carpet python - captive, rural NSW - euthanasia due to neurological signs. Intranuclear inclusion bodies in the central nervous system consistent with a viral infection, but seemingly different to classical Inclusion Body Disease (intracytoplasmic inclusion bodies). Electron microscopy carried out by Melbourne Zoo and Melbourne University to further characterise the lesions were inconclusive. (2577.1)
- New Zealand Fur Seal - captive, NSW - acute haemorrhagic gastroenteritis and terminal systemic bacterial infection (*Clostridium sordelli*)
- Little Penguin - captive, NSW - acute fibrinous enteritis (*Clostridium* sp.). It is interesting that the Little Penguin and the NZ Fur Seal above both died from clostridial enteritis within a couple of days. Food related illness is suspected. (2405.1)
- Pheasant Coucal - captive, NSW - Elderly female bird with degenerative joint disease died with extensive bleeding throughout the body, but primarily emanating from a

dissecting tear in the brachial artery. The bird had just been treatment with an anti-inflammatory drug (Cartrophen) that has a chemical composition similar to heparin. The bird was suffering from severe, diffuse atherosclerosis, which most likely increased its predisposition to haemorrhage. This is the second case of haemorrhage in a bird that has been treated with cartrophen that we have seen at the Registry.

JANUARY 2002

- Grey-headed flying foxes - juveniles submitted by NSW National Parks & Wildlife Service for post mortem examination. 6/34 young flying foxes being maintained in a pre-release crèche in Kuringai died within a 36 hour period. Three additional flying foxes in the crèche concurrently developed respiratory illness and dysphagia. Preliminary examinations are suggestive of an acute bacterial or viral infection. No bacteria were isolated in tissues from the animals. Viral culture is pending. Lyssavirus and Hendravirus exclusion testing was conducted at the Australian Animal Health Laboratories. (2649.1, 2649.2)
- Red Bellied Black Snake - South Australia - Biopsy, adenocarcinoma (likely pancreatic). (2603.1)
- Southern Hairy Nosed Wombat - received tissues from 3 wombats of 14 animals that were transported recently into a captive breeding program in Rockhampton. The program is associated with the Northern Hairy Nosed Wombat recovery program. (2604.1, 2617.1, 2617.2)
- Little Penguin - Manly - euthanasia, multiple bite wounds around the cloaca.
- Long nosed bandicoot - captive, NSW - abscess in axillary lymph node. Mycobacteriosis. (2644.1)
- White headed pigeon - captive, NSW - arthritis with large cystic structures surrounding the elbow and carpal joints on one wing. *Mycobacteria* sp. identified within the lesions. The infection most likely originated in the respiratory tract, which is unusual. Most cases of mycobacteriosis in birds are spread through the gastrointestinal system. (2645.1)
- Brush-tail bettong - captive, NSW - *Mycobacterium avium* was isolated within granulomas in the liver and lung lesions. Very slow growing organisms. (2548.11)

FEBRUARY 2002

- Diamond Python - NSW, wild - euthanased on arrival to a rehabilitation clinic due to severe depression, and the presence of multiple abdominal masses. The snake had spindle cell tumours in multiple organs and forming large masses in the coelomic cavity. The snake also had intracytoplasmic inclusion bodies within several organs. This is the first free-ranging snake that we have seen with lesions suspicious of Inclusion Body Disease. Samples from this animal will be submitted for electron microscopy. (2707.1)
- Green Tree Frog - South Australia - skin ulcers, mycobacteriosis. (2633.1)
- Little Penguin - NSW - numerous wild penguins found to be emaciated near the end of moulting. Post mortem examination failed to find any evidence of underlying infectious or parasitic disease. It is suspected that these animals may have had insufficient fat stores prior to moulting.
- Budgerigars (5) - captive, NSW - died with multisystemic mycobacteriosis. *Mycobacterium triplex* (formerly of the *M. avium* group)
- Wobbeong - NSW, Fish Markets - died just after surgery to remove a long-line fishing hook from the stomach wall. (2668.1)

MARCH 2002

- Pacific Black Ducks - Royal Botanic Gardens, Sydney - Investigated the mortality of 50 Black Ducks and 1 Buff Banded Rail at the Royal Botanic Gardens and 5 free ranging Black Ducks in Taronga Zoo. The birds were in excellent body condition and had no lesions on necropsy and upon histological examination of a variety of tissues. The pattern of mortality was considered to be consistent with toxicosis. Rod Thomas at the DPI Laboratories in Yeerongpilly conducted ELISA tests on serum (from blood collected post mortem from the cardiac chambers) and intestinal contents from fresh carcasses, and on maggots from severely decomposed carcasses. Water was also analysed to rule out the presence of toxic algal blooms. ELISA tests identified the presence of a C or E type botulinum toxin in samples from several birds.
Nutrient contents in the ponds are high, in part due to the 8,000 flying foxes in the gardens. Lucerne bails wrapped in hessian had been placed in the ponds to act as "tea bags" to soak up excess nutrients, but these bags of rotting vegetation provide an ideal anaerobic environment for the proliferation of *Clostridium botulinum*.
In addition to removing the lucerne bails, recommendations to control the outbreak included removal of any rotting vegetation from the pond margins, aerating the ponds, ensuring that the ponds are deep and have steep sides to maintain uniformly cool water temperatures, and rapid removal of any animal carcasses. Maggots are resistant to the effects of botulinum toxin and they can accumulate large concentrations of the toxin. The ingestion of three maggots is sufficient to kill an adult duck. Carcasses also provide a warm, anaerobic environment that is ideal for the proliferation of *Clostridium botulinum*. Gary Wobeser used to tell us to consider duck carcasses to be "little down sleeping bags" for clostridial proliferation.
- Little penguin - NSW - ongoing finding of emaciated Little Penguins nearing the end of moult. Several penguins were merely emaciated and may not have had sufficient fat stores prior to moulting.
- Grey-headed flying fox (2) - NSW, wild - adult flying foxes from Ku-ring-gai and Lane Cove National Parks examined to ensure no relationship with earlier mortalities of young flying foxes in the pre-release cages.
- Sperm Whale - 2 neonatal sperm whales found stranded along the NSW coast over a 7 day period. One animal was examined on behalf of NPWS. (2733.1)
- Australian Fur Seal - wild, NSW - euthanased due to poor body condition and a fishing line protruding from the mouth. A fish hook was embedded in the stomach. (2714.1)
- Galah - captive, NSW - died with acute bacterial enteritis, similar to that often seen in rainbow lorikeets. (2734.1)