

# PATHOLOGY REPORT

## Australian Registry of Wildlife Health

Status: Final

Date: 9/05/2018

<b>Submitter Details:</b>  <b>Submitter:</b> WIRES Northern Rivers  <b>Date Submitted</b> 26/04/2018  <b>Specimen ID:</b> TARZ-12394.1	<b>Animal Details:</b>  <b>Common Name:</b> Red-necked Pademelon  <b>Animal ID:</b> 'Jazzy'  <b>Sex:</b> Female <b>Age:</b> Juvenile  <b>Enclosure No. or Location:</b> Mullumbimby?  <b>Date Died:</b> 20/07/2017
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**Weight:** 910g

**Specimen History:** Came into care 25/2/17 at 440 g with a broken leg which was pinned at Currumbin Wildlife Hospital which healed well (remained in situ due to bone remodelling, etc). Moved to outside enclosure following healing of leg on 20/4/17. On 20/7/17 animal was found in enclosure with shakes, partly paralysed, and showing similar illness to some other joey previously seen in this area. Joey euthanased and samples collected for investigation of this syndrome. Case notes attached.

**Gross Pathology:** N/A

### **Histopathology:**

Tissues are generally well preserved.

**Heart:** Small numbers of neutrophils multifocally infiltrate the endocardium. Within a locally extensive area, a moderate infiltrate of neutrophils disrupts the underlying myocardium, infiltrating between cardiac myocytes, which are occasionally shrunken with pyknotic nuclei. The surrounding interstitium is congested, with mild haemorrhage.

**Lung:** Interstitial capillaries diffusely contain increased numbers of neutrophils.

**Spleen:** Frequent neutrophils percolate through the red pulp and cluster at the margins of lymphoid follicles, which are mildly expanded by prominent germinal centres.

**Liver:** Small numbers of neutrophils multifocally infiltrate portal tracts.

**Kidney:** Small numbers of neutrophils focally infiltrate the renal pelvic interstitium.

Colon: Moderate numbers of neutrophils segmentally infiltrate the lamina propria, accompanied by mild attenuation of the luminal epithelium.

No significant lesions are present in the following tissues: Small intestine, oesophagus, stomach, pancreas, brain including cerebral cortex, thalamus and hippocampus, cervical spinal cord

**Diagnosis:**

Heart: Moderate, acute, multifocal neutrophilic endocarditis

Colon: Mild, acute, segmental neutrophilic colitis

Liver: Mild, acute, multifocal neutrophilic portal infiltrates

Lung: Peripheral neutrophilia, presumptive

Spleen: Marginal zone neutrophilia

**Comment:**

Histologic findings are most significant within sections of the heart, which are characterised by multifocal inflammatory foci. The distribution of the lesion and predominance of neutrophils implicates sepsis, and this is supported by marginal zone neutrophilia within the spleen. A septic focus was not evident within the tissue sections examined; however, a mild neutrophilic inflammatory focus within the colon may have been associated with translocation of enteric bacteria across the mucous membrane.

Concurrent infection with a rickettsial organism cannot be excluded based on these results. Despite considerable interest in the role of Australian marsupials as reservoirs of zoonotic rickettsial pathogens such as *Coxiella burnetti* (the causative agent of Q fever), their susceptibility to disease is not well understood. In most cases, infection is likely to be asymptomatic or mild, with no distinct lesions on necropsy. If *Coxiella burnetti* or other *Rickettsia* spp. are suspected, serology and evaluation of fresh tissue samples (liver, spleen) by culture and PCR is recommended.

**Pathologist:** Hannah Bender