SKIN MITES IN A RINGTAIL POSSUM (CASE 710.1)

Juvenile Male Ringtail Possum (*Pseudocheirus peregrinus)*
The possum was found dead hanging by its tail from a tree branch.

GROSS PATHOLOGY

External examination: The skin of the lips and eyelids is swollen and deep purple. There are multiple areas of hair loss and puncture wounds along the right flank.

The ventral cervical and axillary skin is coated with a mild, orange crust (Figure 1). Many mites are evident within the crusts upon examination with a dissecting microscope.

Hydration: good, Muscle mass and fat deposits: good

Internal findings: The lungs are moderately congested. The gastrointestinal tract contains scant ingesta.

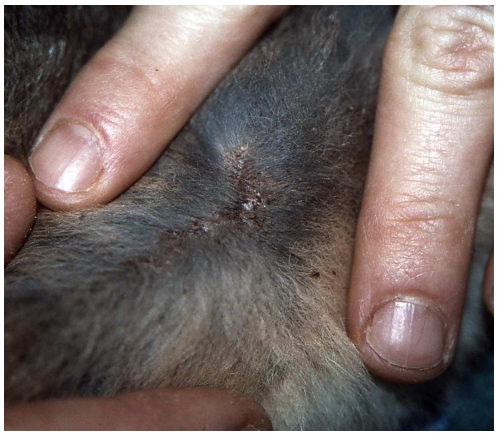

Fig 1. Skin mites and hyperkeratosis

HISTOPATHOLOGY

Lung: The pulmonary parenchyma is mildly consolidated and the alveolar interstitium contains moderate numbers of polymorphonuclear cells.
Liver: Kupffer cells occasionally contain small quantities of brown granular cytoplasmic pigment.

Skin: The epidermis of one section of skin bears patchy orthokeratotic hyperkeratosis and there are scattered intrakeratin pockets of cellular debris. The dermis appears normal. Cross sections of mites are evident above the skin. Within another segment of skin, there is segmental acanthosis and multifocally extensive to coalescing pockets of intrakeratin cell debris. Larger numbers of mites are evident above this skin segment (Fig 2).

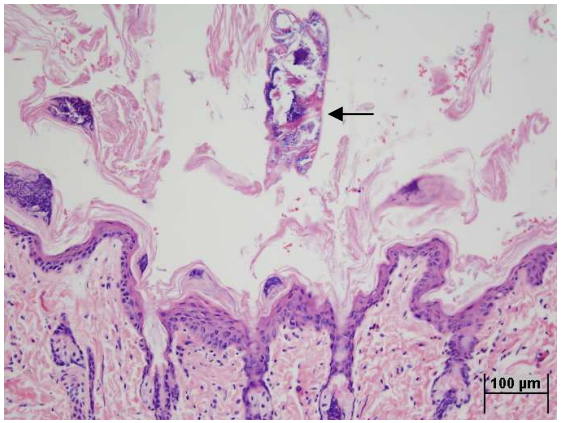

Fig 2. Section of skin showing hyperkeratosis and a longitudinal section of a mite (arrow) H & E 200x

PARASITOLOGY

Mites preserved in 70% ethanol - *Trichosurolaelaps striatus*

MORPHOLOGICAL DIAGNOSIS

Entrapement - multiple contusions and puncture wounds
Mite infestation - *Trichosurolaelaps striatus*

Fig 3. *Trichosurolaelaps striatus* - Whole mount 200x

COMMENTS

Mite infestation is not an uncommon finding in older ringtail possums. The infestations can be mild and not associated with morphological changes in the skin, but when the mites are more prevalent, there are often hyperkeratotic and mild inflammatory lesions in the skin. Severe mite infestation in ringtail possums are often associated with advanced age, underlying disease, or debility that prevents normal grooming behaviour.

The possums other lesions were consistent with predation by a cat, and probable secondary bacteraemia. The increased number of neutrophils within the pulmonary parenchyma of this possum is suggestive of ante mortem neutrophilia.

REFERENCES

DOMROW R. (1979) [reprint author]. Some Dermanyssid mites acari mostly from Australasian rodents [article] Proceedings of the Linnean Society of New South Wales. 103(3-4). 189-208

Case interpretation: Karrie Rose. Ccase construction: Damien Higgins

The Australian Registry of Wildlife Health
Taronga Zoo Western Plains Zoo
Zoological Parks Board of New South Wales