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## **Papillomatosis in a southern brown bandicoot (*Isodon obesulus*) in Western Australia.**

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An adult male southern brown bandicoot (*Isodon obesulus*) in poor health was found at Lesmurdie, Western Australia in April 2007. During initial examination, multifocal to coalescing irregular, raised, alopecic, erythematous cutaneous lesions were observed over the flanks, face and limbs. Routine skin scraping was performed, but no ectoparasites were identified. Initial treatment included weekly oral Ivomec® and Malaseb baths. During treatment, the bandicoot's weight increased as did his level of activity. There was improvement of the skin condition noted during a follow up visit, but still the lesions persisted. Due to the similar appearance of the skin lesions to those described in western barred bandicoots (*Perameles bougainville*), papillomatosis was suspected. The bandicoot was subsequently examined at Murdoch University and skin biopsies were collected under general anaesthesia for histopathology, microbiology, electron microscopy and molecular investigations. A small volume of blood was collected from which blood smears were prepared. Routine histopathology revealed locally extensive epidermal hyperplasia of the strata spinosum and granulosum, with moderate anisokaryosis and anisocytosis of keratinocytes. There were also multifocal neutrophilic infiltrates in the superficial dermis and epidermis and mild dermal oedema. Fungal culture failed to demonstrate any significant fungal organisms. No viral particles were seen using transmission electron microscopy. Total DNA was extracted from a skin lesion and an aliquot subjected to multiply primed rolling circle amplification. This technique amplified DNA which upon restriction enzyme analysis indicated a possible circular DNA viral genome of approximately 7.3kb. Using three PCR primer sets specifically designed to amplify regions of the tentatively named *Perameles bougainville* papillomavirus type 1 (PbPV) genome, and one degenerate primer set FAP59/64, amplicons were obtained for DNA sequencing. Sequence analysis revealed that the southern brown bandicoot virus isolate's amplicons using FAP59/64, MBL1, MBL2r and MBsTag primer pairs showed 80%, 79%, 75% and 91% homology with corresponding regions of the PbPV genome respectively. Low numbers of *Hepatozoon* sp. were identified in blood smears. Here we report a case of virus-associated papillomatosis in a southern brown bandicoot.

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