

TUBERCULOSIS IN ZOO ANIMALS: A REPORT OF DISEASE TRANSMISSION BETWEEN SPECIES AND ZOOS

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Tuberculosis in zoo animals concerns the survival of endangered species as well as public health aspects. Validated *ante mortem* diagnostic tests are not available for many exotic hosts. In this report spanning a time period of five years, tuberculosis outbreaks in South American sea lions, Bactrian camels, and Malayan tapirs kept in two zoological gardens linked by animal transfer were recorded. Bacteriological, molecular and immunological methods were applied. *Mycobacterium (M.) pinnipedii*, was isolated from all involved animals except one from which mycobacteria could not be detected. Spoligotyping and variable number of tandem repeats (VNTR) typing revealed identical molecular characteristics in all isolates.

In one of the involved zoos, about twelve years before another tuberculosis outbreak had occurred. As causative agent finally also *M. pinnipedii* had been identified. However, this isolate showed a spoligotyping pattern different from the actual one.

Anti MTC antibodies were detected using ELISA and another recently developed rapid serological test (RT).

The study confirms that (i), using appropriate molecular epidemiological methods in tracing back infectious chains, true links can be distinguished from potentially false links, and that (ii), better immunological tests may help to detect tuberculosis infections in different animal species *ante mortem* more reliably and early.