# DETECTION OF *MYCOBACTERIUM BOVIS* IN CAPTIVE SLOTH BEARS (*MELURSUS URSINUS*) BY POLYMERASE CHAIN REACTION

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## ABSTRACT

Diagnosis of Mycobacterial infection is paramount important from the public health perspective since treatment and control measures are very significant, particularly in captive animals. In this diagnostic study of Mycobacterium bovis infection in sloth bears (Melursus ursinus), polymerase chain reaction (PCR) had been used with the primer sequence of pncA-8 (5'-GGTTGGGTGGCCGCCGGTCAG-3') and pncA-11 (5'-GCTTTGCGGCGAGCGCTCCA-3') that were specific for Mycobacterium bovis pncA gene. Forty two fresh faecal samples were collected randomly from the apparently healthy sloth bears maintained in captive conditions. The DNA extraction procedure was done as per the manufacturer's protocol and further subjected to amplification. The amplification profile includes respectively: initial heating of the samples for 5 minutes at 94°C, annealing at 55°C for 1 minute, primer extension at 72°C for 1 minute and final elongation step for 10 minutes at 72°C. Out of 57 samples, 5 samples were yielded on expected amplified PCR product size of 744 bp when electrophoresed in 1.5% agarose gel. A positive control of Mycobacterium bovis DNA procured from Tuberculosis Research Centre and a negative control from a healthy bovine sample were used. These results demonstrated that PCR test will increase the effectiveness of laboratory diagnosis to detect and identifying the Mycobacterium bovis in captive wild animals.

**KEYWORDS**: Sloth Bears, *Mycobacterium bovis*, Polymerase Chain Reaction