

S5.8 PHYLOGENETIC RELATIONSHIPS OF *TRYPANOSOMA CHELODINAE* FROM AUSTRALIAN TURTLES INFERRED FROM SMALL SUBUNIT rDNA ANALYSES

K.A. Jakes<sup>1</sup>, P.J. O'Donoghue<sup>1</sup>, and R.D. Adlard<sup>2</sup>

<sup>1</sup>Department of Microbiology and Parasitology, The University of Queensland, Brisbane, 4072, Australia.

<sup>2</sup>Queensland Museum, PO Box 330, South Brisbane, 4101, Australia.

Trypanosome infections are often difficult to detect by conventional microscopy and their pleomorphy often confounds differential diagnosis. Molecular techniques are now being used to diagnose infections and to determine phylogenetic relationships between species. Small subunit rDNA gene sequences were determined for isolates of *Trypanosoma chelodinae* from the Brisbane River turtle (*Emydura signata*), the saw-shelled turtle (*Elseya latisternum*), and the eastern snake-necked turtle (*Chelodina longicollis*) from southeast Queensland, Australia. Phylogenetic relationships between *T. chelodinae* and other species were examined by maximum parsimony and distance matrix methods. The Australian turtle trypanosomes did not exhibit any close phylogenetic relationships with trypanosomes from mammals, reptiles or amphibians, but were closely related to fish trypanosomes. This contra-indicates their co-evolution with their vertebrate hosts but does not exclude co-evolution with different groups of invertebrate vectors, notably insects and leeches.