Conference Paper

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Non-archetypal *Toxoplasma gondii* genotypes in Western Australian wildlife species

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Nested-PCR was used to detect the presence of *Toxoplasma gondii* in a variety of species of native Western Australian fauna. Markers used were B1, SAG2, SAG3, SAG4, GRA6, GRA7, and SAG1. Tissue samples from frozen carcasses of numerous native and introduced species of mammals and birds that had been stored frozen by the Department of Environment and Conservation (DEC) were collected and DNA isolated. PCR results showed that the marsupial species infection ratio was 81% (13/16 species) and the non-native species infection ratio was 80% (12/15). Some species were found to be highly infected with *Toxoplasma*, including kangaroo 95% (22/23), chuditch (western quoll) 82% (18/22), woylie 77% (34/44), and Australia raven 90% (9/10). The results further revealed that the strain types detected are highly variable, including a range of non-archetypal types, recombinant types, atypical and mixed strain infections. A total of 8 atypical genotypes were revealed based on analysis of the common consensus nucleotide positions at the B1 locus. Among these, one was the same as found previously (Parameswaran, N. et al. 2010) while the other 7 were novel. The highly variable strain types may be the result of the unique ecosystems in Western Australia. Further studies of the virulence of the newly discovered strains is of high importance in the conservation of Western Australian wildlife conservation.