

STOPPING THE CYCLE OF MAMMAL EXTINCTION IN AUSTRALIA

A new consortium are setting their sights on preventing the additional extinction of Australian mammals through advanced genomic research.

Monday 10 October 2016, Sydney: A new initiative led by a consortium of leading Australian museums and universities will support genomic data collection and sharing as well as international collaboration in an endeavour to reduce extinction rates of Australia's unique mammals.

The new Oz Mammal Genome (OMG) initiative – funded by Bioplatforms Australia (BPA) to the amount of \$1 million, through the Commonwealth Government NCRIS programme – aims to address Australia's tragic record as the country with the highest rate of mammal extinction on the planet. It will also yield important insights into the evolution of our globally unique mammals.

The national consortium, led from the Australian Museum (AM) and the Australian National University also includes South Australian Museum, Museum Victoria, Western Australian Museum, Queensland Museum, CSIRO, several Universities and the Western Australian Department of Parks and Wildlife.

“Very little is known about the genomics of Australian mammals, in spite of genetic diversity being essential for sound conservation management,” **Dr Rebecca Johnson**, Director of the Australian Museum Research Institute (AMRI) and a lead member of the consortium, said.

Fellow lead member of the consortium and Director of the CSIRO-ANU Centre for Biodiversity **Professor Craig Moritz** said “Australian marsupials in particular are especially distinct and developmentally unique; their genomes contain a vast array of information and are an important comparative resource for understanding mammalian diversity worldwide. The genomic data the consortium will generate will give us the knowledge and tools to more effectively manage these unique species into the future.”

Dr Mark Eldridge, Principal Research Scientist in Terrestrial Vertebrates at the AM, agreed: “From the few existing genomic studies of Australian marsupials and monotremes, some spectacular, globally significant discoveries have been made. Given the unique history and biology of Australian mammals, these discoveries are just the tip of the iceberg.”

The OMG Initiative and funding will enable Australian museum and university researchers to collaborate with international organisations such as the British Natural History Museum, the Smithsonian, UC Berkeley, and end user organisations such as Australian Wildlife Conservancy, Arid Recovery and Bush Heritage Australia, as well as Australian state and territory wildlife management agencies.

“Whilst this project is Australian-centric, the uniqueness of the species being analysed make it of interest to the international research community,” said BPA General Manager, Andrew Gilbert. “We are building a data collection of national and global significance, with increased access.”

The model of the Oz Mammal Genome Initiative follows in the established footsteps of the Koala Genome Consortium, also co-led by the AM and initially funded through BPA, which has already seen substantial progress towards sequencing and assembling the koala genome, with significant learnings along the way.

“We have an engaged international community now with the capacity to tackle collaboratively the urgent problem of mammal extinction,” Gilbert said.

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