Mapping the crocodile genome

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The first ever genetic linkage map for a non-avian member of the Class Reptilia has been developed. Researchers writing in the open access journal *BMC Genomics* have constructed a first-generation genetic linkage map for the saltwater crocodile Crocodylus porosus.

Dr Lee Miles, from the University of Sydney, worked with a team of Australian and international researchers to study a population of saltwater crocodiles from the Darwin Crocodile Farm in the Northern Territory. He said, "This map will be a valuable resource for crocodilian researchers, facilitating the systematic genome scans necessary for identifying genes affecting complex traits of economic importance in the crocodile industry".

The researchers' map also provides a significant step towards the elucidation of the crocodilian genome, forming a scaffold for genome sequence assembly, and will be of intrinsic value to comparative mapping efforts aimed at understanding the molecular evolution of reptilian, as well as other amniote genomes. From an economic perspective, this new information should be able to assist in the breeding of farmed crocodiles with favourable growth rate, survival and skin quality by facilitating the systematic searches necessary to identify the genes that affect these traits.

Speaking about the map, Miles said, "The crocodile is a very charismatic organism, but with surprisingly very little genetic or genomic resources available prior to this map. As part of my PhD I was fortunate to have been involved in this collaboration between the University of Sydney,

Darwin Crocodile Farm and the University of Georgia in the USA, and it is very satisfying to know that the outcomes of our research will be of value to both future research efforts, as well as industry. We've taken that first difficult step and I am certain that even more exciting research with follow."

More information: A genetic linkage map for the saltwater crocodile (Crocodylus porosus), Lee G Miles, Sally R Isberg, Travis C Glenn, Stacey L Lance, Pauline Dalzell, Peter C Thomson and Chris Moran, BMC Genomics (in press), www.biomedcentral.com/bmcgenomics/

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