

Supplementary Material

Mitochondrial DNA analyses of the saltwater crocodile (*Crocodylus porosus*) from the Northern Territory of Australia

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Appendix S1. Overall description of the undergraduate student in-class research activity related to the current study

This study is the result of an undergraduate student in-class research activity in the Wildlife and Evolutionary Genetics subject of the Bachelor of Animal and Veterinary Bioscience at the Faculty of Veterinary Science, University of Sydney. Five class groups (~15 students each) dedicated ~25 hours per year from 2007 to 2011 and the current piece of academic work contains the outcomes.

This in-class activity aimed to engage these students in research in a scientifically rigorous manner with regards to experimental design, technical limitations and statistical analysis of results to further expand the body of knowledge in their field of interest. Students focussed on addressing questions related to the phylogeography of the saltwater crocodile from the Northern Territory in Australia as described in the current publication. In order to do this, students undertook individual and team work to generate data including DNA extraction, PCR and preparation of samples for DNA sequencing. They analysed DNA data using phylogenetic and population genetic softwares and explored various ways to interpret that data in the light of the available literature in the field. Every year, each class generated a particular set of data and drafted a possible manuscript in relation to their findings. All datasets were combined for the final analyses and preparation of the manuscript.

The supervisor of this activity, Dr Gongora, provided guidance and feedback to students through all steps by asking students questions and suggesting ways to solve problems and analyse data. Students and academics consider that this activity has enhanced students' research skills, showed them how research applies to practical questions, provided them with better understanding as to the process involved in finding a gap in the literature and how to conduct research, showed them how to apply methods to research questions and how to perform whole projects and obtain real data in the area of evolutionary genetics. From a broad educational perspective, this is an example of how research enriched learning and teaching in the curriculum can be implemented but, most importantly, how students can actively engage in the teaching/learning process as well as in the generation of new knowledge.

Table S1. Australian river basins and sampling locations of the 67 samples collected for this study

River basin	Location	Number of individuals
Finniss River	Wagait	2
	Finniss River	3
	Labelle/ Welltree Station	4
Bathurst and Melville Islands	Tiwi Islands	5
	Adelaide River Station	3
Adelaide River	Beatrice Hill	1
	Harrison Dam	4
	Djukbinj	4
	Woolner Station	4
	Marrakai Station	5
	Opium Creek	2
Mary River	Mary River	1
	Carmour Plains	3
Wildman River	Goomadeer River	4
Goomadeer River	Maningrida	2
Liverpool River	Arafura Swamp	7
Goyder River	Gove Peninsula	3
Buckingham River	Goromuru River	4
	West Arm	1
	Sadgrove Creek	1
	Bleesers Creek	1
	Pioneer Creek	1
	Tree Point	1
Unknown origin in the Northern Territory (wild-caught) crocodiles)	Buffalo Creek	1
Total number of samples		67

Table S2. Haplotypes ID and Genbank Accession numbers

Haplotype ID	Genbank Accession Numbers
H1	JQ237683, AJ810453, AF542534
H2	JQ237684
H3	JQ237685, AF542533
H4	DQ273698, AF542537
H5	AF542536
H6	AF542538
H7	AF542535
H8	AF460213