

Supplementary Material

Morphological variation in skull shape and size across extinct and extant populations of the greater stick-nest rat (*Leporillus conditor*): implications for translocation

Isabelle R. Onley^{A,*}, *Katherine E. Moseby*^B, *Jeremy J. Austin*^A and *Emma Sherratt*^C

^AAustralian Centre for Ancient DNA (ACAD), School of Biological Sciences, The University of Adelaide, South Australia, Adelaide, SA 5005, Australia

^BCentre for Ecosystem Sciences, Earth and Environmental Sciences, University of New South Wales, Sydney, NSW 2035, Australia

^CSchool of Biological Sciences, The University of Adelaide, South Australia, Adelaide, SA 5005, Australia

*Correspondence to: Email: isabelle.onley@adelaide.edu.au

1 **Supplementary Table S1**

2 Metadata of individual *Leporillus conditor* specimens measured. SAM = South Australian Museum, MV = Museums Victoria, WAM = Western
 3 Australian Museum, AM = Australian Museum, BMNH = British Museum of Natural History. All measurements are in millimetres (mm).

Catalogue Number	Collection	Locality	Year	Latitude	Longitude	IBRA 7 Regions	GLS	CBL	PPM	ZB	IZL	BB	HB	IB	RB	RL	LIF	BIF	MT R	mT R	MH
M14051	SAM	Tieyon Homestead	1986	-26.1667	134.25	Stony Plains	46.62	44.32	40.88		15.68	18.92	13.48	6.04	7.29		9.78	3.25	9.12		
M4377	SAM	Lake Eyre	1907	-28.5	137	Simpson Strzelecki Dunefields	45.16	42.19	39.16	21.07		17.35	13.49	5.68		16.55	7.82	3.45	10.12	9.03	13.2
M4372	SAM	Lake Eyre	1907	-28.5	137	Simpson Strzelecki Dunefields	47.15	45.2	41.63	22.24	15.85	18.44	13.81	5.01	7.8	17.7	9.98	2.99	10.09	9.19	13.75
M4371	SAM	Lake Eyre	1907	-28.5	137	Simpson Strzelecki Dunefields	47.32	43.87	42.91	22.85	16.01	19.05	14.33	5.44		18.6	10.61		9.56	9.1	14.17
CHG613.2.3	SAM	Chambers Gorge	1976	-30.97	139.28	Flinders Lofty Block			38.11	20.45	14.91	17.11	13.07	5.53	7.64		8.68	3.04	8.7		
CHG613.2.1	SAM	Chambers Gorge	1978	-30.97	139.28	Flinders Lofty Block			38.65	21.21	15.51	17.74	11.96	5.49	7.37		9.89	3.41	9.57		
CHG613.3.5	SAM	Chambers Gorge	1978	-30.97	139.28	Flinders Lofty Block			38.97	20.82	14.39			5.96			8.99	3.51	9.09		
CHG613.2.2	SAM	Chambers Gorge	1978	-30.97	139.28	Flinders Lofty Block			39.2		15.53	16.55	12.41	5.21			8.55	3.68	9.58		
CHG613.3.3	SAM	Chambers Gorge	1978	-30.97	139.28	Flinders Lofty Block											9.51	3.32	9.73		
CHG613.3.2	SAM	Chambers Gorge	1978	-30.97	139.28	Flinders Lofty Block				19.88				5.76			8.57	3.27	9.15		
CHG613.2.5	SAM	Chambers Gorge	1978	-30.97	139.28	Flinders Lofty Block													8.9		
CHG613.3.1	SAM	Chambers Gorge	1978	-30.97	139.28	Flinders Lofty Block				20.6	15.73			5.72			9.02	3.1	9.19		
CHG613.3.4	SAM	Chambers Gorge	1978	-30.97	139.28	Flinders Lofty Block													9.26		
CHG613.2.4	SAM	Chambers Gorge	1978	-30.97	139.28	Flinders Lofty Block				20.05	14.97	18.72		6.36			8.24	3.23	8.96		
NSB1.1	SAM	Number 6 Bore	1989	-31.2	131.2	Nullarbor			38.03	21.18	15.55	17.3	12.8	5.69			9.04	3.41	8.88		
NSB1.2	SAM	Number 6 Bore	1989	-31.2	131.2	Nullarbor			39.25	21.6	15.58	17.33	13.11	5.92	7.77		9.29	3.41	9.1		
IVC.2.1	SAM	Ivy Cave	2011	-31.417	130.827	Nullarbor			37.72	21.36	15.81	18.11	13.01	5.98	6.8		8.26	3.45	8.45		
IVC.2.2	SAM	Ivy Cave	2011	-31.417	130.827	Nullarbor			38.22	22.19	16.12	17.27	13.15	6.06	7.91		9.19	3.63	9.96		
IVC.2.3	SAM	Ivy Cave	2011	-31.417	130.827	Nullarbor	45.51	42.23	39.58	20.08	15.53	17.58	12.27	5.71	6.68		8.47	3.22	8.46		
IVC.2.4	SAM	Ivy Cave	2011	-31.417	130.827	Nullarbor			38.4		14.9	17.2	12.7	5.8	6.5		8	3.1	8.15		

									1		2		7		9			1					
IVC.2.5	SAM	Ivy Cave	2011	-31.417	130.827	Nullarbor	45.4	43.6	39.7	22.8	15.9	18.5	13.3	6.1	7.4	17.0	8.67	3.5	9.13				
							5	5	7		6	4				7		6					
IVC.2.6	SAM	Ivy Cave	2011	-31.417	130.827	Nullarbor			37.3	19.4	15.3		12.4	5.9	6.5		8.1	3.2	8.84				
									9	8	3		7	3				8					
M6308.006	SAM	New Cave	1960	-31.3333	130.9	Nullarbor			36.3	20.7	14.6	17.3	12.8	5.9	6.4		8.55	3.0	9.03				
									7	1	6			3	5			2					
M6308.004	SAM	New Cave	1960	-31.3333	130.9	Nullarbor			37.4	20.0	15.7	17.8	12.0	5.7	7.1		8.58	3.1	8.57				
									9	2	1	2	8	5	5			9					
M6308.001	SAM	New Cave	1960	-31.3333	130.9	Nullarbor			38.8	19.7	15.9	17.8	13.3	5.9	6.7		8.9	3.0	9.16				
									4	3	3	4	1	1	3			3					
M6308.003	SAM	New Cave	1960	-31.3333	130.9	Nullarbor			39.2	19.9	16.0	18.9	13.6	6.8			9.73	3.2	9.9				
									6	8	1			8				1					
M6308.005	SAM	New Cave	1960	-31.3333	130.9	Nullarbor			39.9	22.2	15.5	18.4	13.6	5.8			9.34	3.4	9.44				
									4	4	9	7		2				4					
M6308.007	SAM	New Cave	1960	-31.3333	130.9	Nullarbor								5.9		16.9	8.99	2.9	9.01				
														5		1		9					
MUC.1.1.2.1	SAM	Murrawijinie Cave	1989	-31.365	130.875	Nullarbor	44.7	42.8	39.0	21.5	15.0	17.4	12.6	6.0	7.1	16.6	10.1	3.4	8.73				
							5	4	8	8	5			8	1	5	9	9					
MUC.1.1.2.2	SAM	Murrawijinie Cave	1989	-31.365	130.875	Nullarbor			38	20.5	14.9	17.3	13.1	5.7	6.2		8.68	3.2	8.67				
										5	3	2	9	8	4			1					
MUC.1.1.2.3	SAM	Murrawijinie Cave	1989	-31.365	130.875	Nullarbor			38.4	21.4	15	17.4	12.7	5.2	6.9		8.83	3.1	9.01				
									5	3		4	7	8				6					
MUC.1.1.1.1	SAM	Murrawijinie Cave	1989	-31.365	130.875	Nullarbor			38.1	20.7	15.6	17.9	12.6	6.0	6.6		9.04	3.3	9.43				
									5	3	1	9	1	3	5								
MUC.1.1.1.2	SAM	Murrawijinie Cave	1989	-31.365	130.875	Nullarbor	44.5	43.2	39.0	20.6	15.8	17.2	13.0	5.4	6.9		8.9	3.2	8.48				
							7	1	3	1		5	8	1	1			2					
MUC.1.1.1.3	SAM	Murrawijinie Cave	1989	-31.365	130.875	Nullarbor			37.0		15.1			5.7	6.9		8.72	3.3	8.73				
									7		3			6	9			2					
MUC.1.1.1.4	SAM	Murrawijinie Cave	1989	-31.365	130.875	Nullarbor								6.0	7.1		8.79	3.1	9.05				
														6	2			8					
M6307.002	SAM	Koonalda Cave	1960	-31.4	129.8333	Nullarbor			38.0		16.1	18.4	13.6	6.3			9		9.55				
									3		6	8	8	9									
M6307.001	SAM	Koonalda Cave	1960	-31.4	129.8333	Nullarbor			38.3	21.1	14.9			6.2	7.5		9.39	3.2	8.89				
									6	8	8			4				3					
M6306.005	SAM	Weekes Cave	1960	-31.5	129.9167	Nullarbor			37.4	22.2	15.5	17.4	13.4	5.7	6.9		9.2	3.4	9.13				
									9	3	9	7	1	1	8			5					
M6306.004	SAM	Weekes Cave	1960	-31.5	129.9167	Nullarbor			38.1	21.7	15.9	17.2	12.4	5.7	6.9		8.83	3.3	9				
									1	5	1	4	4	5	8			5					
M6306.002	SAM	Weekes Cave	1960	-31.5	129.9167	Nullarbor			39.2	22.6	15.3	18.1	12.2	6.1					8.99				
									6	2	7	8	3	7									
M6306.006	SAM	Weekes Cave	1960	-31.5	129.9167	Nullarbor			40.4			18.3	13.1	5.8	7.4		9.23	3.5	8.77				
									8			5	9	5	3			6					
M11959	SAM	West Franklin Island	1982	-32.4333	133.65	Eyre Yorke Block	45.5	43.4	39.6	22.3		17.8	13.8	5.4		17.1	8.76	3.4	9.61	9.4	13.8		
							2	7	8	2		5	3	4		9		7	5	5			
M7860	SAM	East Franklin Island	1969	-32.4431	133.6694	Eyre Yorke Block	45.6	44.0	38.9	21.8	15.9	16.6	12.4	5.4	7.9	16.2	8.88	3.6	9.59	9.0	13.2		
							2	2	6	9	4	6	9	9	1	6			5	5			

M7859	SAM	East Franklin Island	1969	-32.4431	133.6694	Eyre Yorke Block	45.8 4	43.5 9	39.7 4	21.8	15.8 9	17.1 2	13.2 9	5.0 6	8.4 8	16.4	9.18	3.2 5	9.58	9.2 5	13.6 9
M8607	SAM	Franklin Islands	1970	-32.45	133.6667	Eyre Yorke Block	45.7 8	43.2	38.7 1	21.8 3		16.9 1	12.9	5.8 9	7.6 6	17.1 6	8.51	3.4 4	9.5	9.4	13.2 5
M8182	SAM	Franklin Islands	1970	-32.45	133.6667	Eyre Yorke Block	45.0 4	42.1 8	38.9 3	20.5 9			12.9 5	5.8 6		15.7	7.96	3.3 3	9.82	9.2 2	12.7 9
M9509	SAM	Franklin Islands	1970	-32.45	133.6667	Eyre Yorke Block	45.7 6	43.6 8	39.3 9	21.7 4		17.6	12.9 8	5.6 4	8.1 6	17.3 4	8.81	3.5 6	9.88	9.7 7	13.4 5
M7862	SAM	Franklin Islands	1969	-32.45	133.6667	Eyre Yorke Block	45.6 6	43.1 6	39.9 1	22.1 4		17.4 5	13.7 4	5.7 2	8.2 2	17.2 9	8.45	3.4 3	9.69	9.5 2	13.2 4
M7858	SAM	Franklin Islands	1969	-32.45	133.6667	Eyre Yorke Block	46.3 5	44.3 6	39.9 3	22.2 6		17.9	14.1	5.3 7	7.5 7	17.1 8	8.72	3.2 4	9.73	9.2 3	13.4 1
M7863	SAM	Franklin Islands	1969	-32.45	133.6667	Eyre Yorke Block	46.6 2	44.1 2	40.0 8	21.9 9		17.8 4	14.7	5.4 2	7.7 1	17.2 4	8.97	3.3	9.69	9.6 1	14.1 5
M21372	SAM	Franklin Islands	1985	-32.45	133.67	Eyre Yorke Block	46.9 4	44.7 6	40.1 8	22.4 7	15.6 6	17.4 8	13.7 5	5.5 5	8.3	17.2 5	8.39	3.1 1	9.74	9.0 8	13.3 6
M7861	SAM	Franklin Islands	1969	-32.45	133.6667	Eyre Yorke Block	47.2 2	44.6 4	40.4 1	22.7 5		17.1 6	13.6 7	5.5 7	8.4 2	17.7 1	8.89	3.7 6	10.1 9	9.5 4	13.8 7
M9508	SAM	Franklin Islands	1969	-32.45	133.6667	Eyre Yorke Block	47.0 9	45.2 5	40.4 8	22.8 9	15.3 2	17.7 2	13.7	5.7 4	8.4 2	17.0 7	9.31	3.6 5	9.83	9.5 1	13.9 8
M15747	SAM	Franklin Islands	1971	-32.45	133.67	Eyre Yorke Block	46.7 6	44.2 5	40.5 3	22.2 7	16.7 8	17.1 9	13	5.5 8	7.8 7	16.6 3	9.34	3.6 8	10.1 9	9.3 1	13.7 7
M7865	SAM	Franklin Islands	1969	-32.45	133.6667	Eyre Yorke Block	48.0 3	45.0 4	40.8 3	22.6 2	16.9 7	18.0 1	13.7 6	5.4 9	8.5 9	17.1 6	9.04	3.9 2	9.81	9.8 2	14.0 5
M8183	SAM	Franklin Islands	1970	-32.45	133.6667	Eyre Yorke Block	47.3 6	44.3 5	40.8 7	22.9		17.7 4	13.7 8	5.7 6		17.7 5	9.24	3.6 7	10.1 8	9.6 1	12.8 1
M21396	SAM	Franklin Islands	1985	-32.45	133.67	Eyre Yorke Block	47.6 8	44.9	41.2 9	22.8 1	16.9 6	18.0 1	13.7 6	5.1 5	8.0 6	17.3 7	8.74	3.5 6	10.1 9	9.2	14.6
M7864	SAM	Franklin Islands	1969	-32.45	133.6667	Eyre Yorke Block	48.0 8	45.6 8	41.4	22.2 5		17.8 3	14.1 3	5.9 4	8.4 2	17.4 4	9.31	3.6 2	9.4	9.0 3	14.7 7
M7850	SAM	West Franklin Island	1969	-32.4569	133.6375	Eyre Yorke Block	44.3 9	42.2 5	38.7 9	19.5 6	15.0 2	17.0 9	13.0 9	5.2 6	6.9 5		8.61	3.3	9.42	9.4 4	11.9 8
M8617	SAM	West Franklin Island	1970	-32.4569	133.6375	Eyre Yorke Block	45.6 7	43.1 6	39.1	22.0 3		17.4 6	13.2 8	5.4 8		16.2 5	8.46	3.4 2	9.42	9.1	12.9 4
M7851	SAM	West Franklin Island	1969	-32.4569	133.6375	Eyre Yorke Block	45.4 9		39.2 9	20.9 4	16.0 3	17.3 5	13.8 7	5.6 8					9.6	9.6 5	13.2
M8616	SAM	West Franklin Island	1970	-32.4569	133.6375	Eyre Yorke Block	45.7 5	43.7 5	39.5 4	21.8 7		17.3 6	12.6	5.0 5	7.4 4	16.8 7	8.51	3.4 7	9.56	9.2	13.0 4
M8619	SAM	West Franklin Island	1970	-32.4569	133.6375	Eyre Yorke Block	46.1	43.1 2	40.0 4	22.3		18.0 8	13.6 2	5.8 1	8.3 1	16.8 9	8.83	3.9 9	9.88	9.1 5	13.9 3
M8618	SAM	West Franklin Island	1970	-32.4569	133.6375	Eyre Yorke Block													8.82	8.6 3	
M16410	SAM	Reevesby Island	1990	-34.53	136.28	Eyre Yorke Block			38.7 5	21.3 8	15.8 6	17.4 2	13.9 6	5.3 4	7.7 4		9.04	3.6 3	9.6	9.3	12.9 6
M21156	SAM	Reevesby Island	1999	-34.53	136.28	Eyre Yorke Block	46.1 6	43.5 1	39.7 4	20.6 6	16.0 5	17.5 6	12.9 8	5.4 8	7.3 8	17.0 1	8.93	3.3 8	9.31	9.0 2	13.2 1
M16590	SAM	Reevesby Island	1990	-34.53	136.28	Eyre Yorke Block	45.8	44.0	39.9	21.3	15.8	17.9	14.3	5.5	8.1	17.6	8.92	3.5	9.84	9.4	13.3

GJGS84.3	WAM	Tallering Gorge	2003	-28.094	115.659	Yalgoo															8.6		
WGS84.1	WAM	Tallering Gorge	2003	-28.094	115.659	Yalgoo			37.9	19.6	15.4	17.4	13.2	5.1	5.9	15.0	8.61	3.3	8.99				
WGS84.3	WAM	Tallering Gorge	2003	-28.094	115.659	Yalgoo											8.52	3.4	7.91				
WGS84.4	WAM	Tallering Gorge	2003	-28.094	115.659	Yalgoo			37.2	19.7	15.2	17.4	12.6	5.4	6.7	15.5	8.41	3.3	8.7				
WGS84.5	WAM	Tallering Gorge	2003	-28.094	115.659	Yalgoo				18.2	13.9			5.1						8.4			
WGS84.6	WAM	Tallering Gorge	2003	-28.094	115.659	Yalgoo															7.8	12.6	
WGS84.7	WAM	Tallering Gorge	2003	-28.094	115.659	Yalgoo															7.7	12.9	
WGS84.8	WAM	Tallering Gorge	2003	-28.094	115.659	Yalgoo															4	1	
WGS84.9	WAM	Tallering Gorge	2003	-28.094	115.659	Yalgoo															7.6	12.7	
WGS84.10	WAM	Tallering Gorge	2003	-28.094	115.659	Yalgoo															3	9	
WGS84.11	WAM	Tallering Gorge	2003	-28.094	115.659	Yalgoo															8.5	12.5	
WGS84.12	WAM	Tallering Gorge	2003	-28.094	115.659	Yalgoo															4	8	
WGS84.13	WAM	Tallering Gorge	2003	-28.094	115.659	Yalgoo															7.8		
WGS84.10	WAM	Tallering Gorge	2003	-28.094	115.659	Yalgoo															3		
WGS84.11	WAM	Tallering Gorge	2003	-28.094	115.659	Yalgoo			35.9	18.3	14.7			5.4	6.3		7.54	3.0	8.04				
WGS84.12	WAM	Tallering Gorge	2003	-28.094	115.659	Yalgoo				19.5	14.0			5.3						8.69			
WGS84.13	WAM	Tallering Gorge	2003	-28.094	115.659	Yalgoo				18.6	13.4			5.6	6.1	13.8	7.95	2.8	8.33				
ABRS115/2.1	WAM	Tallering Hill	1985	-28.117	115.62	Yalgoo															8.3	12.2	
ABRS115/2.2	WAM	Tallering Hill	1985	-28.117	115.62	Yalgoo															5	7	
ABRS124/3.1	WAM	Yaringa Station	1985	-25.987	114.297	Carnarvon															8.49		
ABRS124/3.2	WAM	Yaringa Station	1985	-25.987	114.297	Carnarvon															8.1	12.3	
ABRS125/2.1	WAM	Peron Peninsula	1985	-25.643	113.585	Carnarvon															3	1	
ABRS125/2.2	WAM	Peron Peninsula	1985	-25.643	113.585	Carnarvon															8.0	12.6	
ABRS125/2.3	WAM	Peron Peninsula	1985	-25.643	113.585	Carnarvon															5	8	
ABRS125/2.4	WAM	Peron Peninsula	1985	-25.643	113.585	Carnarvon															8.1		
ABRS125/2.5	WAM	Peron Peninsula	1985	-25.643	113.585	Carnarvon															5	6	
ABRS125/2.5	WAM	Peron Peninsula	1985	-25.643	113.585	Carnarvon															7.8	11.6	
ABRS125/2.4	WAM	Peron Peninsula	1985	-25.643	113.585	Carnarvon															7.8		
ABRS125/2.5	WAM	Peron Peninsula	1985	-25.643	113.585	Carnarvon															9		
ABRS125/2.5	WAM	Peron Peninsula	1985	-25.643	113.585	Carnarvon															8.55		
MEE.1	WAM	Cocklebidy	1985	-32	126	Nullarbor			35.4	18.5	14.8	16.8	11.7	5.2			7.98	2.8	7.21				
MEE.2	WAM	Cocklebidy	1985	-32	126	Nullarbor			37.2	20.7	15.0	16.9	12.6	5.9	6.2		8.19	3.1	8.9				
									4	4	5	7	6		2			5					

MEE.3	WAM	Cocklebiddy	1985	-32	126	Nullarbor			38.1 4	20.6 3	15.7	17.8 1	12.6 1	5.9 7	6.6		8.59	3.4 1	9.11		
MEE.4	WAM	Cocklebiddy	1985	-32	126	Nullarbor													9.07		
MEE.5	WAM	Cocklebiddy	1985	-32	126	Nullarbor														8.0 6	
MEE.6	WAM	Cocklebiddy	1985	-32	126	Nullarbor				19.6 5	14.5 9			5.4 6	6.4 9	14.3 7	8.62	2.9 9	8.95		
MEE.7	WAM	Cocklebiddy	1985	-32	126	Nullarbor														8.5 4	12.9 4
MEE.8	WAM	Cocklebiddy	1985	-32	126	Nullarbor														8.1	13.0 7
MEE.9	WAM	Cocklebiddy	1985	-32	126	Nullarbor														8.8 9	
MEE.10	WAM	Cocklebiddy	1985	-32	126	Nullarbor														6.9 7	10.6 9
MEE.11	WAM	Cocklebiddy	1985	-32	126	Nullarbor			37.8 8	20.4 5	15.2 9	17.1 4	12.5 2	5.6 1	6.8 3		8.72	3.4 2	8.89		
68.3.81.1	WAM	Eucla Basin	1966	-31.892	127.583	Hampton				20.4 4	14.6 1	18.4 3	12.3 2	5.6 7						9.46	
68.3.81.2	WAM	Eucla Basin	1966	-31.892	127.583	Hampton														8.0 4	13.3 1
68.3.81.3	WAM	Eucla Basin	1966	-31.892	127.583	Hampton														8.3 5	13.4 8
68.7.50	WAM	Eucla Basin	1966	-31.892	127.583	Hampton			37.9 8		15.1 9	18.0 2	12.6 9	5.7 3	6.8 3		9.71	3.7 2	9.51		
68.7.51	WAM	Eucla Basin	1966	-31.892	127.583	Hampton			38.0 9	21.7 5	15.6 9	18.5 9	12.6 8	6.3 2	6.5 8		9.21	3.0 2	8.95		
68.2.301	WAM	Eucla Basin		-31.967	125.918	Nullarbor			37.9	21.0 2	16.0 8	18.6 5	13.1 2	6.0 8	7.1 1		9.41	3.5 1	9.14		
68.2.302	WAM	Eucla Basin		-31.967	125.918	Nullarbor			39.3	21.8 7	16.3 6	17.0 6	13.2	5.8 8	7.0 6		9.35	3.5 4	9.2		
68.2.303	WAM	Eucla Basin		-31.967	125.918	Nullarbor				20.2 9				5.6 3	6.8 6	15.8 6	8.51	3.2 4	9.02		
68.2.304	WAM	Eucla Basin		-31.967	125.918	Nullarbor				18.9 4				5.5 7			8.41	3.0 5	8.87		
68.2.305	WAM	Eucla Basin		-31.967	125.918	Nullarbor			37.6 5	20.0 5	15.4 6	16.2 3	11.6 8	5.5 8	6.2 3		9.02	3.1 1	8.78		
68.2.306	WAM	Eucla Basin		-31.967	125.918	Nullarbor														8.2 3	12.0 8
68.2.307	WAM	Eucla Basin		-31.967	125.918	Nullarbor														8.3 6	12.3 5
69.7.753	WAM	Eucla Basin		- 31.8890 39	127.8890 36	Hampton			39.4 5	20.6 5	14.6 9	17.6 5	13.1 3	5.5 3	6.9 1	16.1 5	9.5	3.5 1	9.09		
73.1.100	WAM	Eucla Basin	1967	- 31.8890 39	127.8890 36	Hampton			37.8 6	21.9 1	15.2 9	17.7 4		5.8 1	6.5 9		9.38	3.1 6	8.77		

67.4.178	WAM	Eucla Basin	1966	-31.125	127.243	Nullarbor					15.6			5.8					8.93		
67.4.179	WAM	Eucla Basin	1966	-31.125	127.243	Nullarbor					15.3			6.0					8.66		
67.4.180	WAM	Eucla Basin	1966	-31.125	127.243	Nullarbor								6.0							
67.4.181	WAM	Eucla Basin	1966	-31.125	127.243	Nullarbor			39.4	20.2	16.5	17.7	13.2	5.8	6.9		8.37	3.2	9.73		
67.4.189	WAM	Eucla Basin	1966	-31.125	127.243	Nullarbor				19.7				5.6			8.56	3.2	8.77		
67.4.295	WAM	Nullarbor Plain	1966	-31.65	127.43	Nullarbor				21.7	15.5	18.2	13.1	5.9					9.55		
67.4.296	WAM	Nullarbor Plain	1966	-31.65	127.43	Nullarbor								6.3	7.0		9.19	3.3	9.2		
67.4.297	WAM	Nullarbor Plain	1966	-31.65	127.43	Nullarbor				22.2	15.4	17.0	12.5	5.8					9.23		
67.4.298	WAM	Nullarbor Plain	1966	-31.65	127.43	Nullarbor			38.3	20.1	15.2	16.8	12.1	5.7	6.6		9	3.3	9.41		
67.4.299	WAM	Nullarbor Plain	1966	-31.65	127.43	Nullarbor			39.2	21.8	15.1		13.2	6.2			9.61	3.1	8.93		
67.4.300	WAM	Nullarbor Plain	1966	-31.65	127.43	Nullarbor														8.1	
67.4.301	WAM	Nullarbor Plain	1966	-31.65	127.43	Nullarbor														8.4	12.8
67.4.302	WAM	Nullarbor Plain	1966	-31.65	127.43	Nullarbor														7.9	
67.4.303	WAM	Nullarbor Plain	1966	-31.65	127.43	Nullarbor														8.3	13.8
72.1.882	WAM	Nullarbor Plain		-31.65	127.43	Nullarbor														8.52	
72.1.697	WAM	Nullarbor Plain		-31.65	127.43	Nullarbor														9.52	
72.1.696	WAM	Nullarbor Plain		-31.65	127.43	Nullarbor														8.38	
72.1.1114	WAM	Nullarbor Plain		-31.65	127.43	Nullarbor			37.8	21.5	15.7	17.2	12.5	5.7			8.47	3.1	8.89		
WAM1	WAM	3 Bays Island	2013	-26.55	113.65	Yalgoo			37.1	19.4	15.1	17.6	11.7	5.1			9.2	3.3	9.15		
WAM2	WAM	3 Bays Island	2013	-26.55	113.65	Yalgoo			39.1	21.4	16.1	18.5	12.9	5.4	7.6		9.63	3.5	8.5		
WAM3	WAM	3 Bays Island	2013	-26.55	113.65	Yalgoo				20.8	15.5			5.2	6.8		9.52	3.3	7.94		
WAM4	WAM	3 Bays Island	2013	-26.55	113.65	Yalgoo			36.9	19.3	14.5	17.3	11.8	5.0	7.5		8.79	3.6	8.42		
WAM5	WAM	3 Bays Island	2013	-26.55	113.65	Yalgoo			40.4	20.9	16.1	18.0	12.7	5.1	7.1	15.8	9.16	3.5	9.52		
WAM6	WAM	3 Bays Island	2013	-26.55	113.65	Yalgoo				20.1	15.1			5.2	6.7		8.52	3.0	8.78		

WAM7	WAM	3 Bays Island	2013	-26.55	113.65	Yalgoo			37.7 9	19.6 9	14.6 4	17.9 6	12.8 8	5.5 1	6.7 2		8.34	3.2 6	8.36		
WAM8	WAM	3 Bays Island	2013	-26.55	113.65	Yalgoo				19.8 5	15.1 8	17.7 4		5.2 3	6.1 6		8.75	3.4 3	8.56		
WAM9	WAM	3 Bays Island	2013	-26.55	113.65	Yalgoo			37.3 9	20.5 6	14.9 8	18.1 3	12.0 3	5.4 5			9.1	3.2 5	8.49		
WAM10	WAM	3 Bays Island	2013	-26.55	113.65	Yalgoo				19.8				5.2 2	6.7 3		8.71	3.0 4	8.48		
WAM11	WAM	3 Bays Island	2013	-26.55	113.65	Yalgoo														7.6 6	13.2 8
WAM12	WAM	3 Bays Island	2013	-26.55	113.65	Yalgoo														8.0 7	13.2 1
WAM13	WAM	3 Bays Island	2013	-26.55	113.65	Yalgoo														8.4 7	12.7 5
WAM14	WAM	3 Bays Island	2013	-26.55	113.65	Yalgoo														8.0 2	13.9 8
WAM15	WAM	3 Bays Island	2013	-26.55	113.65	Yalgoo														7.8 7	12.3 3
WAM16	WAM	3 Bays Island	2013	-26.55	113.65	Yalgoo														8.0 1	13.3
WAM17	WAM	3 Bays Island	2013	-26.55	113.65	Yalgoo														8.0 2	12.4 7
WAM18	WAM	3 Bays Island	2013	-26.55	113.65	Yalgoo														8.1 6	13.2 3
WAM19	WAM	3 Bays Island	2013	-26.55	113.65	Yalgoo														8.0 7	12.5 4
WAM20	WAM	3 Bays Island	2013	-26.55	113.65	Yalgoo														8.3 2	12.6 9
WAM23	WAM	3 Bays Island	2013	-26.55	113.65	Yalgoo				20.7 5				5		15.9 9	9.36	3.6 2	9.11		
ABRS121/2.1	WAM	Quobba Station	1985	-24.119	113.435	Carnarvon														8.2 8	
ABRS121/2.2	WAM	Quobba Station	1985	-24.119	113.435	Carnarvon														8.62	
CARD1	WAM	Cardabia Homestead	1987	-23.104	113.804	Carnarvon														9.18	
QC1	WAM	Cape Range		-21.997	114.096	Carnarvon														8.91	
68.7.50	WAM	Eucla Basin	1966	-31.892	127.583	Hampton			37.9 7		15.2 6	17.8 1	12.4 5	5.8 3	6.5 5		9.12	3.5 4	9.67		
68.7.51	WAM	Eucla Basin	1966	-31.892	127.583	Hampton			37.8 9	21.6 6	15.4 8	18.7	12.5 8	6.2 5	6.3 5		8.9	2.9 6	9.08		
70.4.241	WAM	Mundrabilla Station	1966	-31.866	127.821	Hampton				19.3 7	15.3	17.4 8	12.5	5.8 2	6.4 5		8.3	3.2 3	8.97		
BAL1	WAM	Eucla Basin	1971	-32.472	123.862	Coolgardie	45.7 5	43.3 4	39.4 2	20.7 8	15.3 3	18.4 5	13.3 7	5.9 6	7.0 8	16.2 7	9.31	3.2 7	9.1		
BAL2	WAM	Eucla Basin	1971	-32.472	123.862	Coolgardie			38.9		15.6 8	18.1 4	12.2 8	5.4 3	7.0 1		9.38	3.4 5	9.37		

BAL3	WAM	Eucla Basin	1971	-32.472	123.862	Coolgardie									5.7	6.7		8.21	3.3	8.9			
															9	7			2				
BAL4	WAM	Eucla Basin	1971	-32.472	123.862	Coolgardie																8.3	
																						4	
BAL5	WAM	Eucla Basin	1971	-32.472	123.862	Coolgardie																8.5	
																						7	
NR1	WAM	Nullarbor Plain	1989	-31.45	130.896	Nullarbor				21.6	15.9	17.4		5.6	6.8		9.25	3.1	9.85				
									1				7	5									
NR2	WAM	Nullarbor Plain	1989	-31.45	130.896	Nullarbor			39.7	21.4	16.0	18.0	12.4	5.4	7.1		8.79	3.2	9.64				
								2	7	8	1	6	4	9									
NR3	WAM	Nullarbor Plain	1989	-31.45	130.896	Nullarbor			39.0	21.5	15.8	17.9	13.3	6.1	7.0		9.3	3.5	9.55				
								2	3	3		3	9	5									
NR4	WAM	Nullarbor Plain	1989	-31.45	130.896	Nullarbor		45.0	39.6	22.7	16.5	17.2	13.3	5.5	7.7		9.39	3.7	9.29				
							5	8	5	2	2	4	1	1									
73.1.85	WAM	Cocklebidy		-32	126	Hampton				20.5	14.5	17.6	12.7	6.1								8.9	
									5	8	8		1										
68.5.58	WAM	Rawlinna		-31.024	125.33	Nullarbor			40.0	21.9	16.3	17.5	12.6	5.6			8.72	3.5	9.93				
								4	1	1	5	1	4										
69.7.583	WAM	Eucla Basin	1962	-32.043	126.096	Coolgardie			37.3	20.3	16.0		12.6	6.3	6.5		9.2	3.1	9.18				
								8	3	1		6	3	8									
69.7.584	WAM	Eucla Basin	1962	-32.043	126.096	Coolgardie			36.6	20.3	15.4	17.2	12.4	5.3	6.9		8.89	3.2	8.84				
									9	4	9	6	3	8									
69.7.591	WAM	Eucla Basin	1962	-32.043	126.096	Coolgardie																8.3	13.0
																						9	7
69.7.593	WAM	Eucla Basin	1962	-32.043	126.096	Coolgardie																8.5	13.9
																						3	7
ABRS32B	WAM	Eucla Basin	1984	-32.497	124.635	Coolgardie				20.2	15.4	17.7	13.3	5.6	7.5		9.36	3.4	8.59				
									2	2	9	4	5										
67.10.94	WAM	Eucla Basin	1967	-31.769	127.0198	Nullarbor	45.3	42.7	39.3	22.5	15.7	17.4	12.9	5.5	7.4	16.8	8.15	3.3	9.12				
							5	6	5	1	5	1	6	3	2	3							
L Jonesi Type (B.M.21.7.3. 2)	BMNH	Franklin Islands	1920	-32.45	133.6667	Eyre Yorke Block	45.9			23.1				5.6			8.5		9.5				
M.3062 (measured by Troughton)	AM	Ooldea	1921	-30.45	131.68	Nullarbor	45.4			20.4							9.2		9.3				

5 **Supplementary Table S2**

6 Wilcoxon rank sum test pairwise comparison of skull size (geometric mean) per IBRA Region. Significant p-values are indicated in bold.

7

	Carnarvon	Coolgardie	Darling Riverine Plains	Eyre Yorke Block	Flinders Lofty Block	Hampton	Murchison	Nullarbor	Riverina	Simpson Strzelecki Dunefields	Stony Plains
Coolgardie	0.49530957	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Darling Riverine Plains	0.15252101	0.25226947	NA	NA	NA	NA	NA	NA	NA	NA	NA
Eyre Yorke Block	4.82E-05	2.64E-05	0.59747546	NA	NA	NA	NA	NA	NA	NA	NA
Flinders Lofty Block	0.15816205	0.34375	0.4852071	0.00157834	NA	NA	NA	NA	NA	NA	NA
Hampton	0.7806597	0.7806597	0.15816205	1.32E-05	0.15816205	NA	NA	NA	NA	NA	NA
Murchison	0.75428571	0.78571429	1	0.37010709	1	0.77484277	NA	NA	NA	NA	NA
Nullarbor	0.34375	0.77075623	0.25226947	4.97E-08	0.59747546	0.37010709	0.94015885	NA	NA	NA	NA
Riverina	0.4852071	0.34375	0.6875	0.34375	0.36363636	0.49530957	1	0.34375	NA	NA	NA
Simpson Strzelecki Dunefields	0.01540616	0.01208791	0.75428571	1	0.03767661	0.00237018	0.51162791	0.02172944	0.51162791	NA	NA
Stony Plains	0.4852071	0.34375	1	0.82173175	0.54545455	0.34375	1	0.34375	1	1	NA
Yalgoo	0.4852071	0.11537346	0.05535615	1.90E-11	0.01455582	0.34375	0.68652482	0.00204808	0.77484277	0.00048456	0.15816205

8

9

10

11 **Supplementary Fig. S1**

12

13 Comparisons of specimens from each IBRA Region using greatest length of the skull (GLS)

14 (A), upper (MTR) (B) and lower (mTR) (C) tooth rows as proxies for body size.

