

# Summary of information on blood groups -

## Australian Aborigines.

### 1 Rh Blood Types - Australian Aborigines

Simmons & Graydon 1948. Med. J. Aust. ii, 113.

Gives a summary of three main views  
on the origin of the aborigine - by W. H. H. Wells,  
by Griffith Taylor and by Biddell.

234 full-blood aborigines tested  
(oodradatta 48; Woorabinda, 63;  
Yarrabah; 55; Alice Springs 23;  
Lake Tyers & Point McLean 11 (the last  
remaining 'pure' Murrayians) Rover Reden 34).

Reagents were anti-D (Rh<sup>0</sup>) anti-C (Rh<sup>'</sup>)  
anti-E (Rh<sup>''</sup>) and anti-Hr<sup>'</sup> (anti-c).

No Rh negatives were found



# Regression

(2)

	CD--	CD-c	C-Ec	CDEc
	112	24	20	64
%	(47.9)	(10.3)	(8.5)	(27.4)

CDE-	C--c	-D--
7	3	4
(3.0)	(1.3)	(1.7)

## Gene frequencies

$R^{0'}$ (CDe)	$0.564 \pm 0.0367$
$R^{0''}$ (cDE)	$0.2009 \pm 0.0193$
$R^1$ (Cde)	$0.1287 \pm 0.0324$
$R^d$ (cDe)	$0.0857 \pm 0.0140$
$R^2$ (CDE)	$0.0208 \pm 0.0079$

Does not think  $D^u$  is present since the <sup>test</sup> anti-D used reacted both with D and  $D^u$  cells.



Simon & Grange, M.M. Sample

Amer. J. Phys. Anthropol. 1954

A blood group genetical survey in Australian

Aborigines

	No tested	O	A <sub>1</sub>	B	M.	M.M.	M.	♀
Darwin N.T.	30	23	6	1	4	12	14	0
Elsen Sir N.T.	12	9	3	0	4	1	7	0
Yuerdum N.T.	93	44	49	0	5	41	45	1
Erakella S.A.	32	16	16	0	0	4	28	0

Possibly half caste - could not use for repeat tests

	Rh <sub>1</sub> Rh <sub>1</sub>	Rh <sub>1</sub> Rh <sub>0</sub>	Rh <sub>2</sub> Rh <sub>2</sub>	Rh <sub>2</sub> Rh <sub>0</sub>	Rh <sub>1</sub> Rh <sub>2</sub>	Rh <sub>1</sub> Rh <sub>2</sub>	Rh <sub>0</sub> Rh <sub>0</sub>
Darwin	14	5	0	0	8	2	1
Elsen Sir	7	2	0	0	2	1	0
Yuerdum	24	2	12	1	54	0	0
Erakella	4	4	4	2	18	0	0

Suggests there is a gradient of Rh<sub>2</sub> increasing north to south from Darwin & Bathurst Island to Yuerdum and Erakella.

At Yuerdum R<sup>1</sup> = .576 R<sup>2</sup> = .408 R<sup>0</sup> = .016.

"Recent tests on blood samples from western



Australian aborigines have shown that both Rho (D<sup>u</sup>) variants and rh' exist in these natives. The differentiation was made by means of the anti-globulin test.

" At Yuendumu there were 4 individuals whose blood agglutinated in variable strengths with potent anti-Rho sera. These 4 Rho (D<sup>u</sup>) variants were therefore of "high-grade"

No example of rh<sup>w</sup> (c<sup>w</sup>) was detected in 167 samples

91/140 were P+ (65%)

12/164 (7.3%) were Le(a+), while

4/124 (3.2%) were non-secretors of ABOH.

49/49 Fy(a+)

0/58 K+

77/152 (57%) tested.



SIMPSON, SENEKE, Cleland, Corley. South

A blood group genetical survey in Australian  
Aborigines at Haast's Bluff, Central Australia

Am. J. Phys. Anthropol. 15, 527. ~~1952~~. 1957

(Haast's Bluff is 150 miles west of Alice Springs).

7 tribes were represented in the sample.  
Aranda, Kukatja, Algalia, Pintubi, Koritja,  
Pitjandjara & Panika.)

	O	A	M	MM	N
No tested	126	56	70	5	49 71 (125)

Rh<sub>1</sub>Rh<sub>1</sub>, Rh<sub>1</sub>Rh<sub>0</sub>, Rh<sub>2</sub>, Rh<sub>1</sub>Rh<sub>2</sub>, Rho, Rh<sub>1</sub>Rh<sub>2</sub>.

(105) 32 12 9 42 3 7

Genes. R<sup>1</sup> = .560 R<sup>2</sup> = .252 R<sup>0</sup> = .119 R<sup>2</sup> = .069

Rh Variants 0/103. P+ 23/100 Le(a+) 0/100

Diat 0/112. Testes 37/74 (.507) (+ 32 for  
when no decision  
could be reached)

Note No Rho variants were found in the present series.

He comments that in his '48 survey (1/2 from Queensland)  
since R<sup>1</sup> (= 0.129) was greatly in excess many of these  
must represent Rh<sup>0</sup> variants of "low-grade".



SIMMONS, GRAYDON, & GATOUSEK (1958).

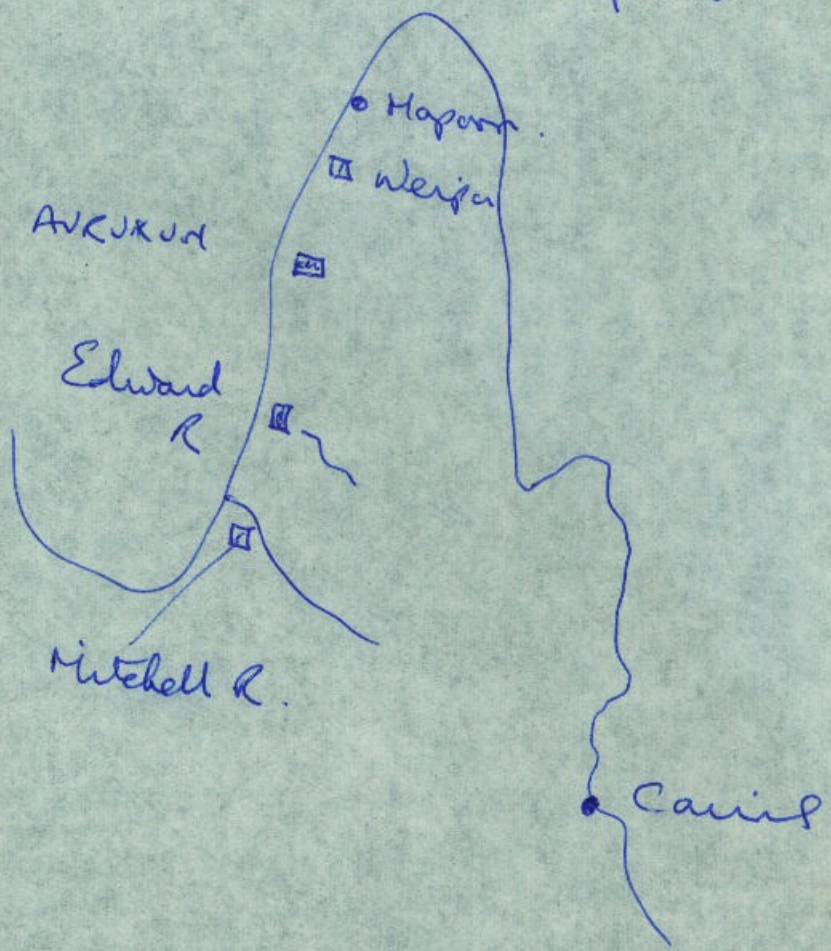
A Blood Group Genetical Survey in Australian Aboriginal Children of the Cape York Peninsula

Am. J. Phys. Anthropol. 16, 59.

More than 500 samples from children in Cape York <sup>Daddacurti</sup>  
Collected - 267 Random samples were blood-grouped.

100 from Mitchell River, 100 AVUKUK, 50 from Edward River & 17 from Weipa and Hapoon.

- Thursday Island.





	No total	O	A	B	A+B	P	g	r	M	MA	M	n	
<u>Mission</u>													
Mitchell River	100	58	18	26	0	.10	.14	.76	10	45'	45	.32	.67
Edward River	50	37	11	1	1	.13	.02	.85	6	22	22	.34	.66
Anukuan	100	89	6	5	0	.03	.03	.94	3	39	58	.22	.77
Wleifa	10	6	4	0	0				1	3	6		
Mapoon	7	2	3	2	0				1	3	3		

## Rivers

	Rh	Rh <sub>1</sub>	Rh <sub>2</sub>	Rh <sub>0</sub>	Rh <sub>1</sub>	Rh <sub>2</sub>	Rh <sub>0</sub>	Rh <sub>1</sub>	Rh <sub>2</sub>	Rh <sub>0</sub>	R <sub>1</sub>	R <sub>2</sub>	R <sub>0</sub>	R <sub>2</sub>
Mitchell R.	62	12	1	1	11	14	0	79	.06	.07	.08			
Edward R.	20	16	1	1	8	4	1	66	.08	.20	.06			
Anukuan	45'	30	2	2	14	0	9	67	.08	.25'	-			
Wleifa	10	0	0	0	0	0	0							
Mapoon	5'	1	0	0	1	0	0							

## Rh variants

Mitchell River (100)	2 high grade Rh <sub>0</sub> (D <sup>0</sup> ) 1 high grade Rh <sup>0</sup> (E)	Anukuan (100) entirely Rh <sub>1</sub> (E)	Edward River (50) 3 high grade D <sup>0</sup> , 1 high grade C 1 high grade E, 1 high grade C
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With regard to the Rh variants. "It is known that Rh variants occur in Australian Aboriginal and Melanesian particularly in New Britain, but no group of natives has previously been encountered by us in which such large numbers of variants have been detected, and with so many Rh antigens included

50/50 random samples were  $Fy(a+)$

0/50  $D_1(a)$  negative.

"Duffy results are consistent with those found in Australia and the Pacific Peoples generally".

See important discussion pp 70 ff on introduction of B gene into Cape York and the presence of  $R_2$  in Melanesians only in Dawn Island. "It would seem fair to say that the chief external influence on Australian Aboriginal of the Cape York Peninsula in post centuries has undoubtedly been from N. Guinea due to the exchange of visits. It is possible that just one man, or just a few men were



responsible for the high group B frequency found in the Mitchell River Mission station, and on the basis of the physical characters observed the influence was essentially Melanesian."

Summary of Rh genes to date.

Author.	Place.	No tested	D <sup>u</sup>	R <sup>1</sup>	R <sup>2</sup>	R <sup>0</sup>	R <sup>z</sup>	R <sup>1</sup>
Simmis & Gayden '48	1/2 Queensland.	234	none reported D <sup>u</sup> said to be 1572 D + D <sup>u</sup>	.564	.201	.085	.021	.129
Singer et al '51.	Cherbourg Woorabinda Queensland	80	None reported.	.676	.114	.130	.080	-
"	Bathurst Is. N. Terr.	98	None reported.	.638	.077	.286	-	-
Simmis et al '54	N. Territory & S. Aust.	167	None reported & presumably absent.	.541	.371	.072	.016	-
Simmis et al '57	Haarts Bluff N. Terr.	105	No Rh <sup>0</sup> variants found but looked for.	.560	.252	.119	.069	-
Simmis et al '58	Cape York	267	D <sup>u</sup> present.	.727	.064	.163	.046	-
Simmis '58.	W. A. "Pure"	1698		.659	.207	.085	.046	.006

Rho(D<sup>u</sup>) variants High grade 0.41% Low grade 0.18%  
 CW 0.

And see table in Simmis 1958 Review.