THE BLOOD GROUPS OF THE SHONA OF SOUTHERN RHODESIA

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Received 12.vii.52

THIS paper describes the results of tests for the ABO, MN and Rh blood group systems, carried out on specimens collected in Salisbury, Southern Rhodesia, from members of the Shona tribes. The majority of the persons tested belonged to the Northern Shona group. Tests were carried out locally for the ABO groups of 377 persons, and a further 101 specimens were sent to London where ABO, MN and Rh groups were determined. Gene frequency calculations were done by the methods described by Chalmers, Ikin and Mourant (1949), and Prasad, Ikin and Mourant (1949), and more fully described by Mourant (1953).

The only previous anthropological blood grouping work done in this region is that of Elsdon Dew (1939).

The A and B gene frequencies calculated from the present work, 15.7 per cent. of A and 13.4 per cent. of B, fall just within the range of rather scattered frequencies found for the Northern Shona tribes by Elsdon Dew. Our values for both genes are near the upper end of Elsdon Dew's range and are near to the values found by him for the Korekore tribe of the Northern Shona group. Members of this tribe probably form a considerable proportion of our subjects but not a majority of them. Elsdon Dew's gene percentages for the Northern Shona as a whole are only 14.6 per cent. of A and 11.2 per cent. of B. For our MN frequencies there is no previous work anywhere in East and South-East Africa with which we can make comparisons. The results agree well with numerous recent unpublished observations in various other parts of Africa.

The Rh frequencies have a typical African aspect. As far as published papers and work now in progress can show, the differences between different parts of Africa in this respect are slight and only in a few cases statistically significant. The *cDe* chromosome is everywhere the commonest by a very wide margin, but is most frequent in the centre and east. In the west and south, however, *cde* shows higher frequencies than in the east and centre. The E gene also tends to have a higher frequency in the centre. In these respects the Shona appear, as far as the small number tested can show, to agree with the peoples of West and South Africa rather than with those of the centre.

They also differ, though barely significantly, from those of East Africa (Kenya and Uganda), (Allison, Ikin and Mourant, 1952 ;

TABLE 1
ABO groups of the Shona

Group	Number observed	Frequency observed	Frequency expected	Number expected	Gene frequencies
O . . .	235	0.492	0.502	240.1	0.709
A . . .	124	0.259	0.248	118.4	0.157
B . . .	105	0.220	0.208	99.3	0.134
AB . . .	14	0.029	0.042	20.1	...
Total . . .	478	1.000	1.000	477.9	1.000

TABLE 2
MN blood groups of the Shona

Group	Number observed	Frequency observed	Frequency expected	Number expected	Gene frequencies
M . . .	27	0.267	0.275	27.8	0.525
MN . . .	52	0.515	0.499	50.4	...
N . . .	22	0.218	0.226	22.8	0.475
Total . . .	101	1.000	1.000	101.0	1.000

TABLE 3
Rh blood groups of the Shona

Phenotype	Principal genotype	Number observed	Frequency observed	Frequency expected	Number expected
ccDee . . .	R ₀ R ₀	71	0.703	0.674	68.1
CcDee . . .	R ₁ R ₀	8	0.079	0.120	12.1
ccDEe . . .	R ₂ R ₀	9	0.089	0.111	11.3
CCDee . . .	R ₁ R ₁	1	0.010	0.005	0.5
CcDEe . . .	R ₁ R ₂	4	0.040	0.009	0.9
ccDEE . . .	R ₂ R ₂	0	0.000	0.004	0.4
ccD ^u ee . . .	R ^u ₀ r	2	0.020	0.019	1.9
ccdde . . .	rr	6	0.059	0.057	5.8
Total . . .		101	1.000	0.999	101.0

Chromosome frequencies

cDe	R ₀	.	.	.	.	0.591
CDe	R ₁	.	.	.	.	0.069
cDE	R ₂	.	.	.	.	0.064
cd ^u e	R ^u ₀	.	.	.	.	0.037
cde	r	.	.	.	.	0.239
						<u>1.000</u>

Ikin, Mourant and Raper, 1952), but the Shona are nearer in their Rh frequencies to the Bantu-speaking Kikuyu than to the Nilotic

Luo. It is, however, desirable that the blood groups, and especially the Rh groups, of the inhabitants of the intervening area should be examined.

There is some evidence that one important basic component of many African populations has an Rh composition near to that of the Shona, a second with higher frequencies of cDe and cDE, but lower cde, being typified by the Pygmies of the Belgian Congo (Hubinont and Snoeck, 1949). A detailed account of the variations in frequency of the Rh groups among Africans and of their possible significance is given by Mourant (1953).

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