HEREDITY OF GREEN-BLINDNESS*

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MARRIAGE between members of two families, in each of which red/green-blindness occurs, is rare. The publication of such pedigrees seems justified if only to confirm suppositions and hypotheses which have already been put forward.

Certain members of a family whose pedigree is shown in the Figure have been examined with Ishihara's Tables (1951). The persons tested are designated in the Figure as II, 6; III, 3; III, 4; III, 5; IV, 1; IV, 2; IV, 3.

□ Normal male	⊠ Male, no information
○ Normal female	⊡ Female, no information
■ Green-blind male	x Examined
● Partially red/green-blind female	

Information was also collected about other members of the family. II, 1 and II, 2 were naval officers, and III, 6 was also in the navy, but died before achieving commissioned rank. III, 1 and III, 2, who are medically qualified, state that they suffer from the same anomaly as their nephews, IV, 1 and IV, 2.

Of the persons examined, III, 5, IV, 1, and IV, 2 are undoubtedly green-

blind. The female patient III, 4, who read Ishihara's Tables as follows, gave the impression of a partial red/green anomaly:

Normal, eighteen

As with a red/green anomaly, fifteen

Doubtful, four

It could not be decided from these tests whether she showed a protanomaly or a deuteranomaly, since she read both figures in the critical Tables (Ishihara 24 and 25) correctly. However, her brothers and her sons are green-blind, and a green anomaly is therefore likely.

III, 4 and her daughter, IV, 3 are particularly interesting. The mother must be heterozygotic, otherwise the entirely normal colour perception of the daughter (IV, 3) cannot be accounted for.

The pedigree shows that heterozygotic carriers may present with pronounced abnormalities of colour perception, or may be phenotypically normal, both types of carrier occurring in the same family.

REFERENCE

ISHIHARA, S. (1951). "Tests for Colour-Blindness", 10th ed. Lewis, London.