

Colour blindness

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Colour blindness is a very well known deficiency that affects approximately 8% of the population worldwide (Fluck 2006). People who are colour blind are not technically blind, they have a decreased ability to identify colours and in the most extreme cases, not able to see colours at all. The technical term for being colour blind is achromatopsia which means the inability to see any colours at all. However, most people are only colour deficient and not fully color blind therefore they can be classified as monochromatic, which means the ability to see one colour, or dichromatic, the ability to see two colours.

Colour blindness is a congenital and permanent mutation of the X chromosome, which is passed on to an offspring by the mother. The most typical case of this deficiency originates from a fault in the development of sets of retinal cones that perceive colour in light and transmit that information to the optic nerve. Men are more likely to have a form of colour blindness due to the fact that they only have a single X chromosome compared to women who have two. For a woman to become colour blind both of her X chromosomes must be mutated compared to only one for a man.

At first glance one would think that being colour blind would have no evolutionary advantages at all, however, that is not the case. US Military studies have shown that soldiers who are colour blind are much better at distinguishing camouflage compared to soldiers without the deficiency (Boring 1945). Even with this skill, most people would consider being colour blind to be a disadvantage on everyday life. Boring, Edwin G. (ed.)Psychologyfor the Armed Services Washington: The National Research

Council – The Infantry Journal, 1945. <http://www.straightdope.com/columns/read/3037/is-colorblindness-an-evolutionary-advantage>