FREQUENCY OF DALTONISM IN THE REGIONS OF BACKA AND BANAT – SERBIA

TATJANA PAVLICA[1], VERICA BOZIC-KRSTIC, RADA RAKIC

Congenital visual deficiencies arise due to the absence of one or more receptor type in the retina leading to colour blindness. The aim of the study is to investigate the frequency of color blindness in the major ethnic groups in village population in Vojvodina (Serbia). The cross-section anthropological study was carried out in the period of 2001-2006. The total number of people who took part in the research was 4504 individuals. Color perception ability was examined by the use of Ishihara color test. The test included the most common innate deficiencies in color recognition – red and green color blindness, i.e. protan and deutan defect. Significant differences between percentages were obtained by χ^2. The frequency of recessive alleles was calculated on the basis of the relative frequency of the recessive phenotype. The degree of genetic distance of the ethnic groups was calculated using standardized Wahlund variance of allelogenetic frequencies. In the total sample of males 5.95% were color blind. For females, only 0.20% were affected. In males, 0.66% of individuals appeared with protan defect and 3.61% of them with deutan defect. As for females, only deutan defect was observed (0.10%). The largest number of daltonians was recorded in Roma and Ruthenian ethnic groups (18.52% and 15.15%, respectively) and the smallest in Slovaks (4.14%). The present population of Backa and Banat exhibits a slightly lower frequency of daltonians relative to previous studies of the same population. This might be a result of migrations or greater frequency of cross-ethnic marriages.

Key words: daltonism, protan, deutan, Vojvodina, Serbia.

INTRODUCTION

Congenital visual deficiencies arise due to the absence of one or more receptor type in the retina leading to colour blindness (Foster 1991). Defective perception of red (protan defect) can be expressed either as a severe color deficiency (protanopia)

[1] **Corresponding author:** Tatjana Pavlica
University of Novi Sad, Faculty of Sciences, Department for Biology and Ecology, Laboratory for Human Biology, Trg Dositeja Obradovica 2, 21000 Novi Sad, Serbia
E-mail: tatjana.pavlica@dbe.uns.ac.rs
rada.rakic@dbe.uns.ac.rs

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