

Chapter 44

Evolutionary Aside 44.2--Inability to See Color in Polynesia

The population on the island of Pohnpei was reduced to 20 in 1775 by a tremendous typhoon. Just by chance, one (or possibly more) of the survivors had a rare recessive allele that causes congenital achromatopsia, a type of color blindness in which the cones are absent and only rods, used for nighttime sight, are present. As a result, such individuals can only see in shades of gray. As a result, 8% of the population on Pohnpei has achromatopsia, compared with the normal frequency of the disease of 1 in 33,000. This is an example of random genetic drift caused by a population bottleneck (see chapter 20).