Bio 320 - Chapter 8 Quantitative Genetics Summary Materials

Important Questions and Learning Objectives

Define or explain polygenic inheritance.

Define or explain heritability. Explain the difference between narrow sense and broad sense heritability. Recognize the importance of additive genetic effects in determining narrow sense heritability.

Describe two means by which you can measure the strength of selection

Explain what is meant by response to selection. Make sure you know how to calculate response to selection.

Explain the problems that arise when trying to compare and interpret differences in IQ scores among different races. (Recall: Heritability is dependent upon the population being examined, as well as the environment that is being experienced; the environment can alter the mean value of a trait, its variance, and how heritable the trait is; thus, the only way to determine the cause of differences between populations is to rear individuals from each of the populations in identical environments.

Important Terms

quantitative genetics
polygenic inheritance
heritability
broad-sense heritability
narrow-sense heritability
additive effects
epistasis
dominance
maternal effects
selection differential
selection gradient
response to selection