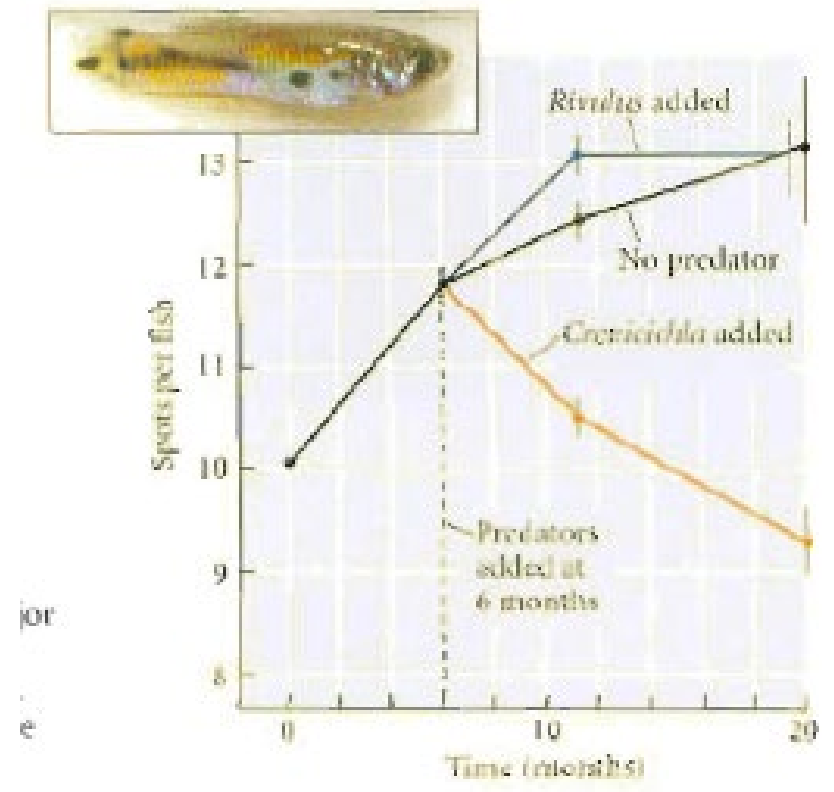
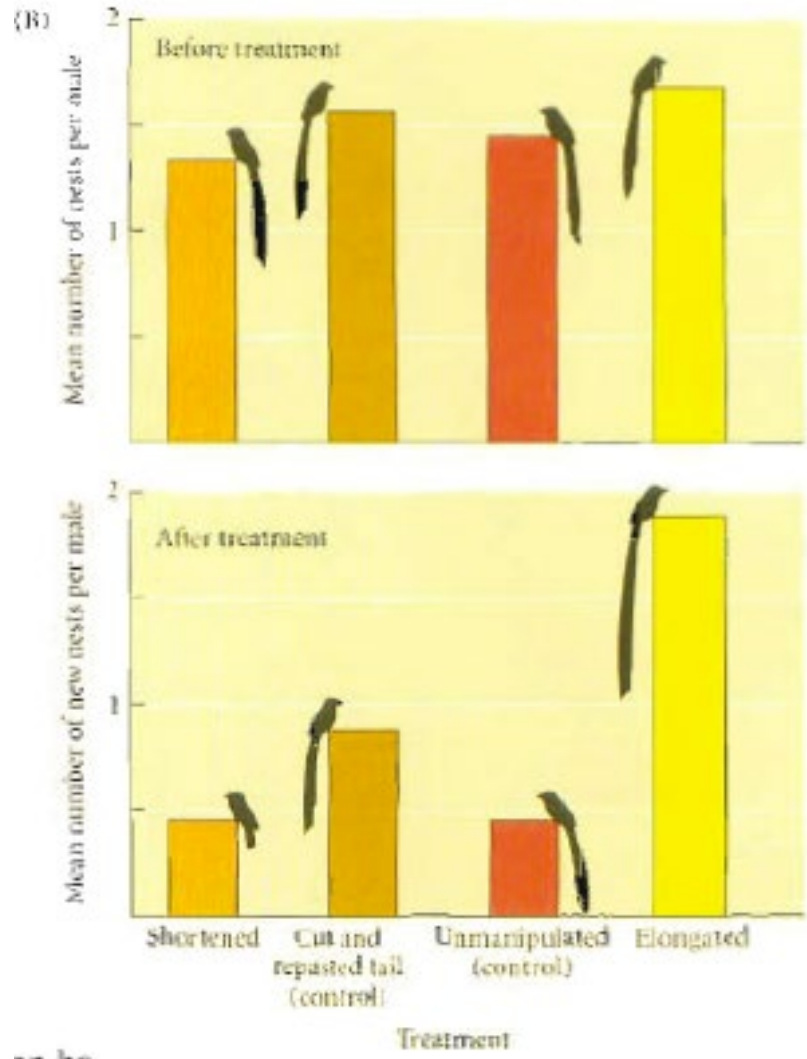
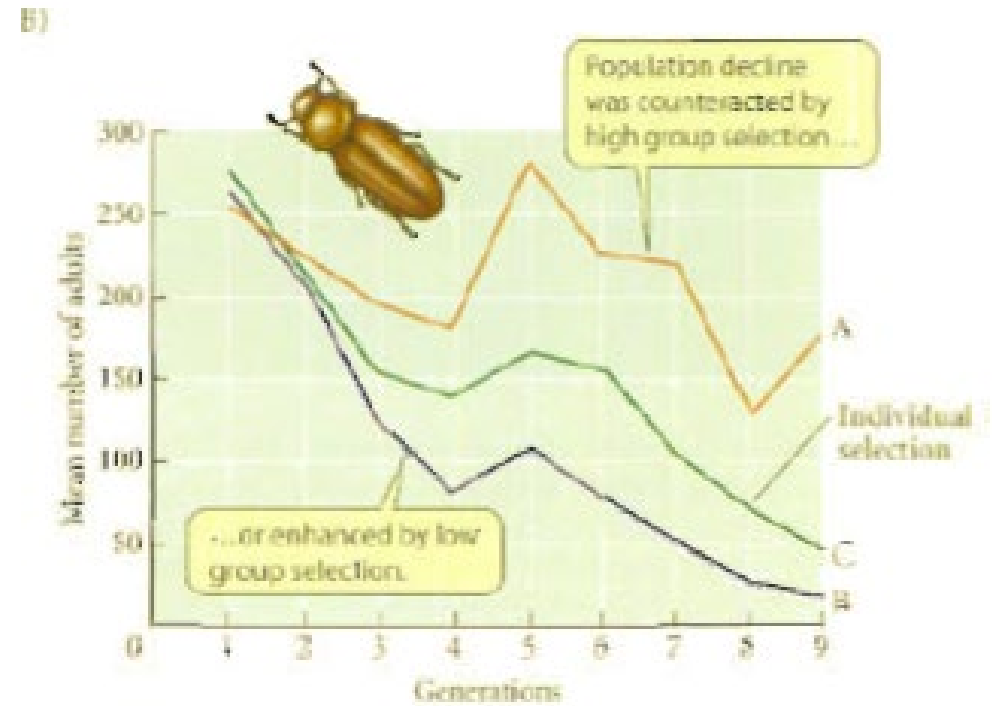
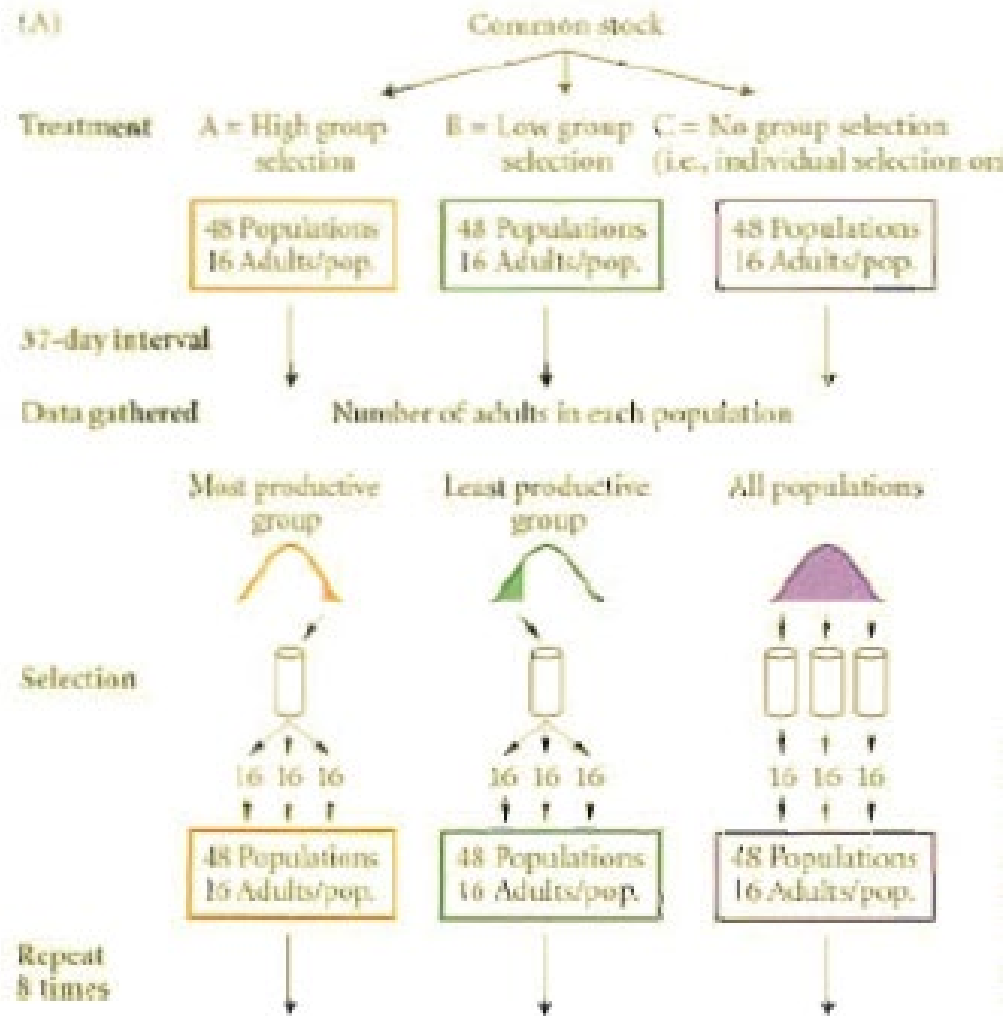
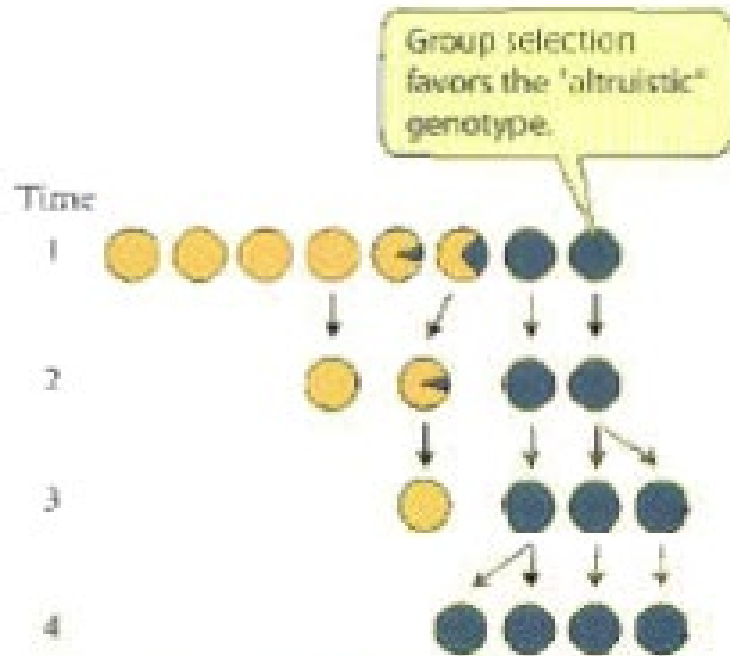


# 11. Dođal Seilim ve Adaptasyon



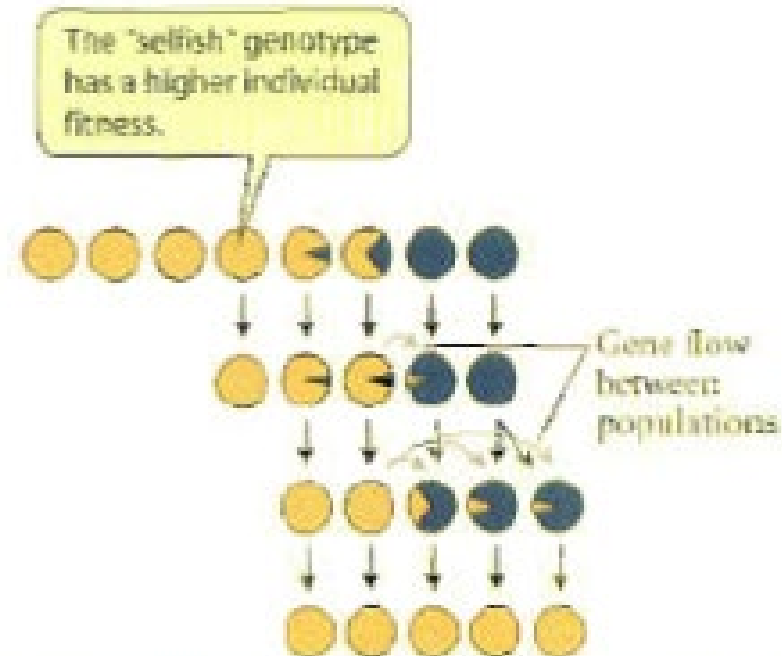


(A)

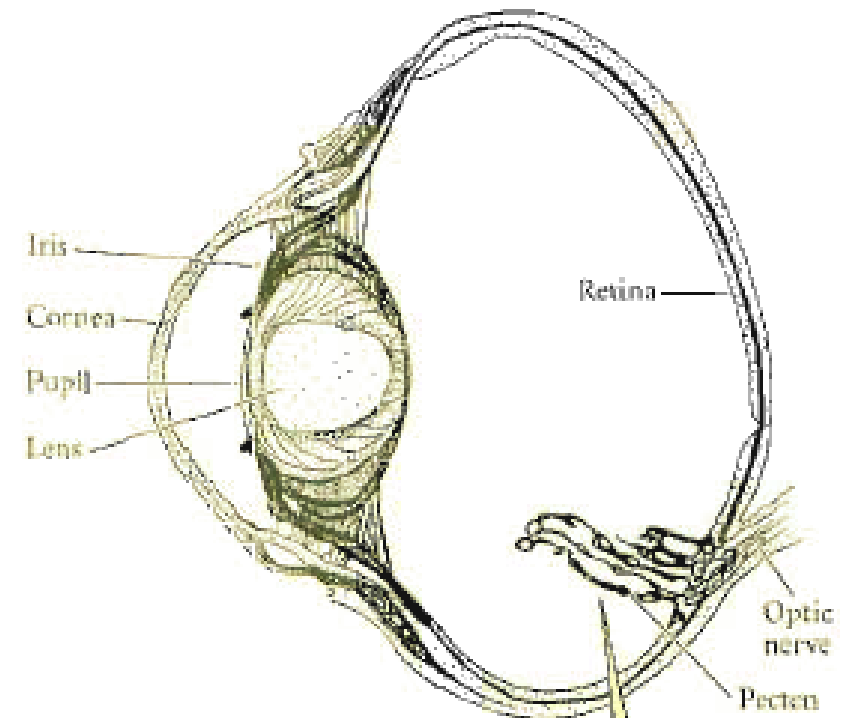
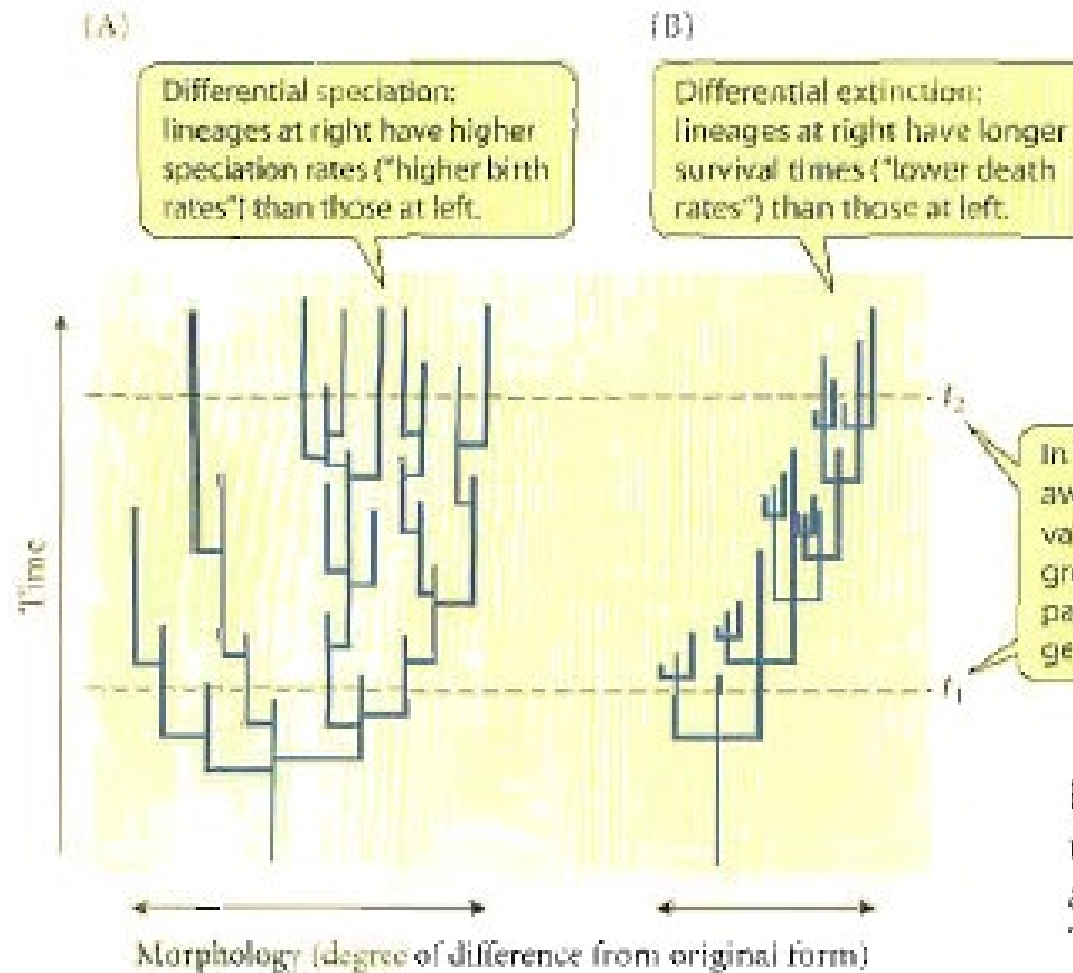


Wynne-Edwards: Altruistic behavior will evolve because group selection favors it (i.e., more "selfish" populations go extinct.)

(B)

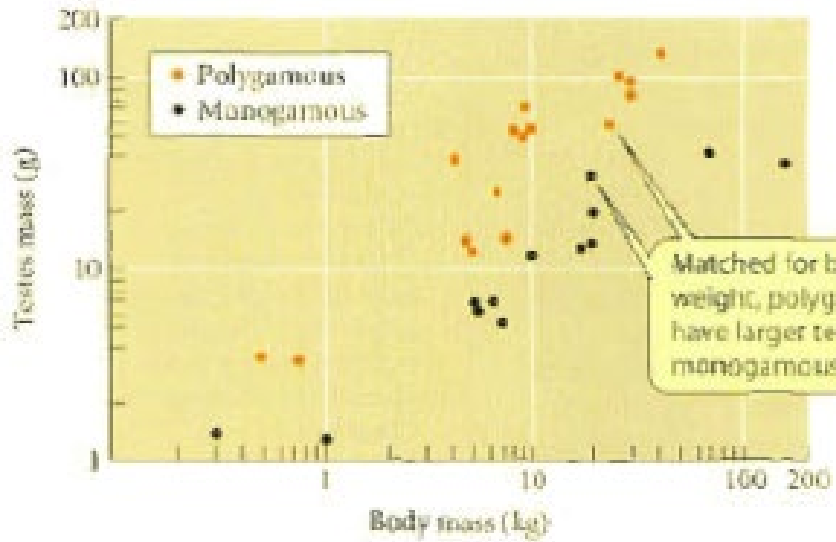


Williams: Within-population selection favors the "selfish" allele and increases it more rapidly than whole-population events, so the "selfish" allele will become fixed.

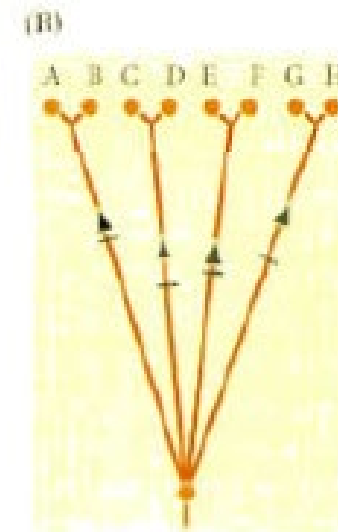
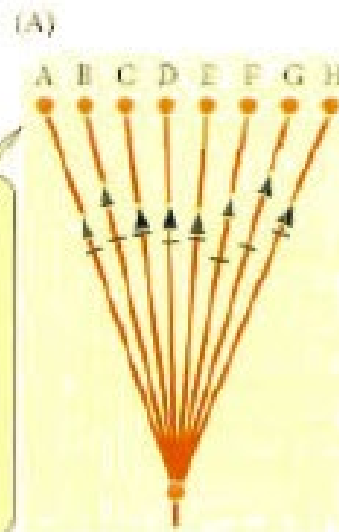


**Figure 11.18** Cross section of a bird's eye, showing the pecten. Among the 30 or so hypotheses that have been proposed for the function of the pecten, the most likely is that it supplies oxygen to the retina. (After Gill 1995.)

Among about 30 hypotheses that have been proposed for the function of the pecten, the most popular is that it supplies oxygen to the retina.

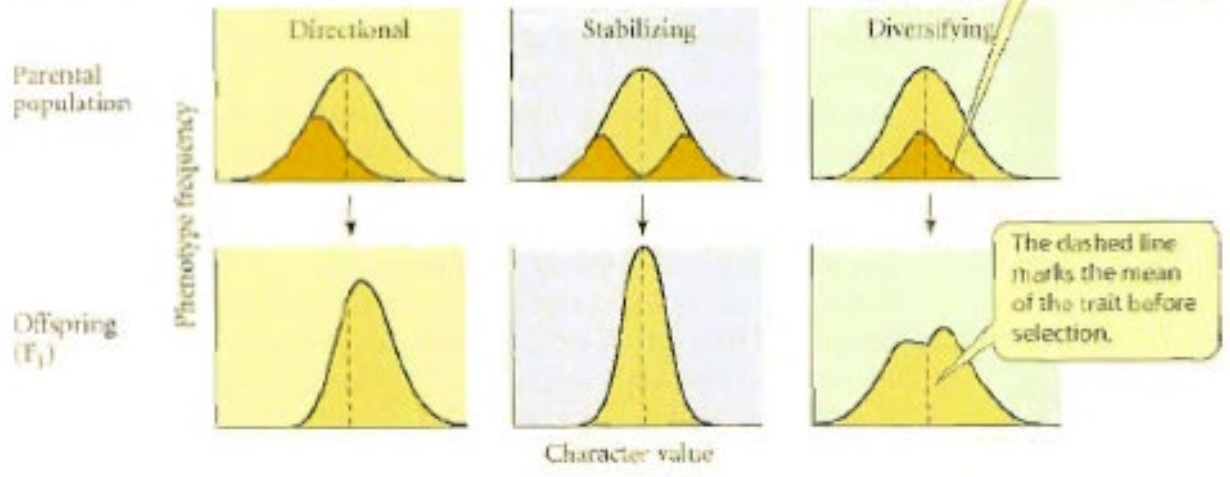


If 8 species are related as in this phylogeny, then two characters that vary among the species may each have undergone 8 independent evolutionary changes. The correlation calculated between those characters will be based on 8 data points.

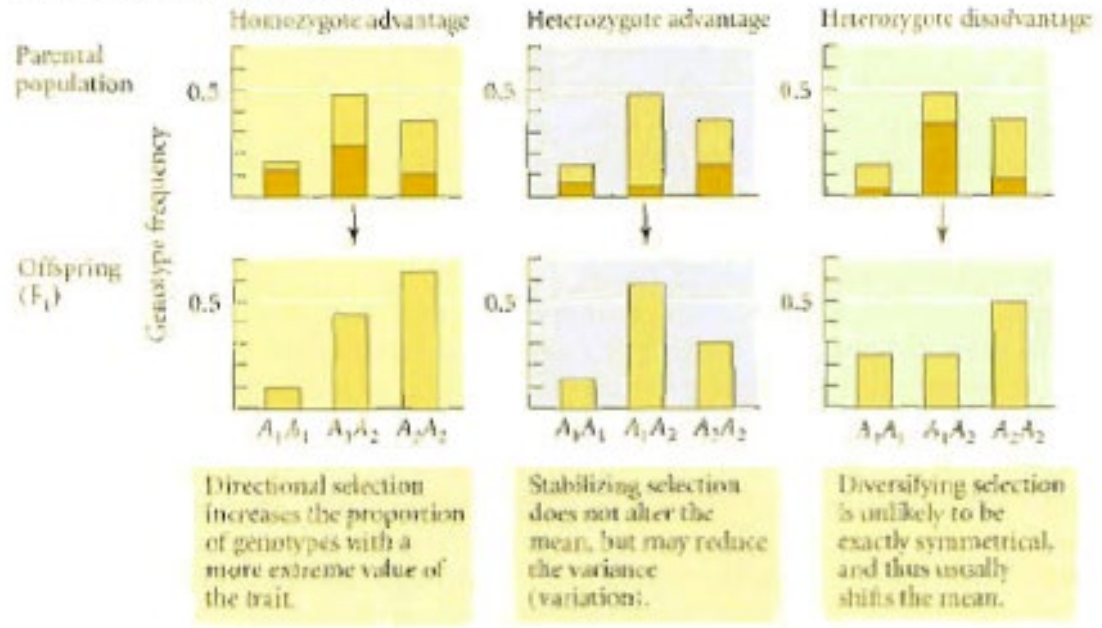


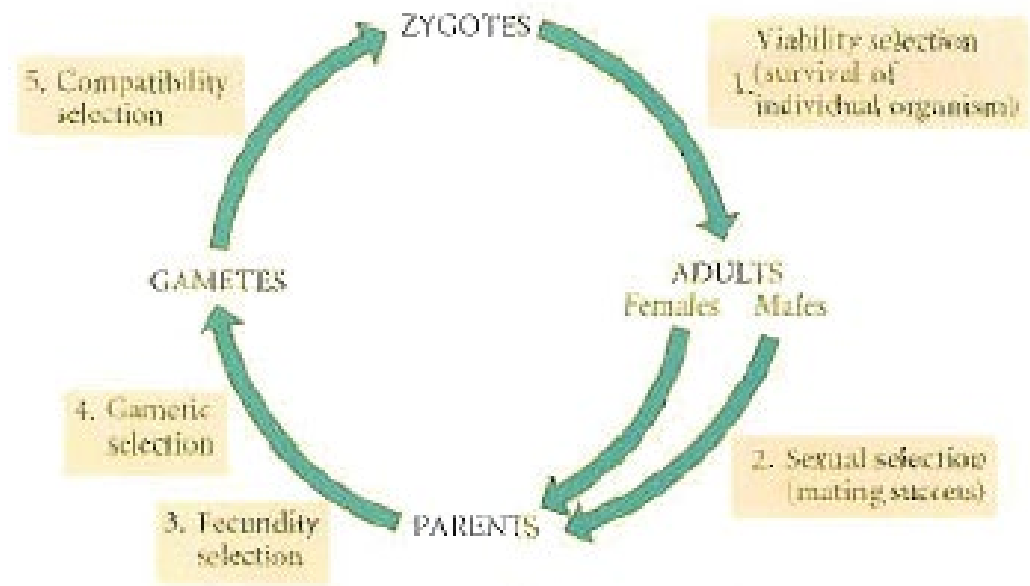
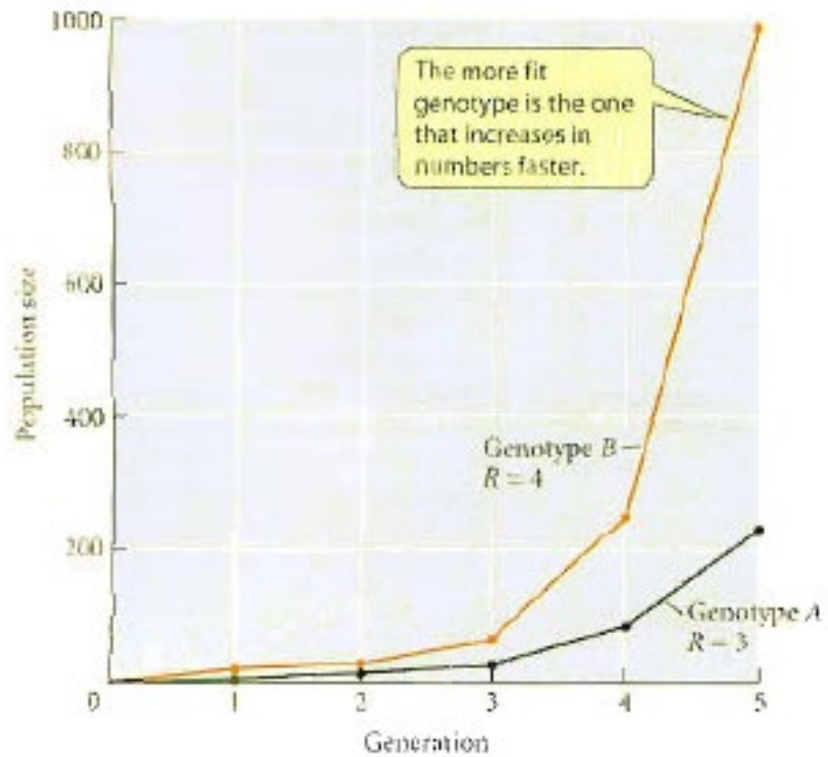
If the 8 species have this relationship, the two characters each may have undergone only 4 independent evolutionary changes, along the long branches. Then the correlation between the characters would be based on only 4 data points.

(A) Quantitative (continuously varying) trait

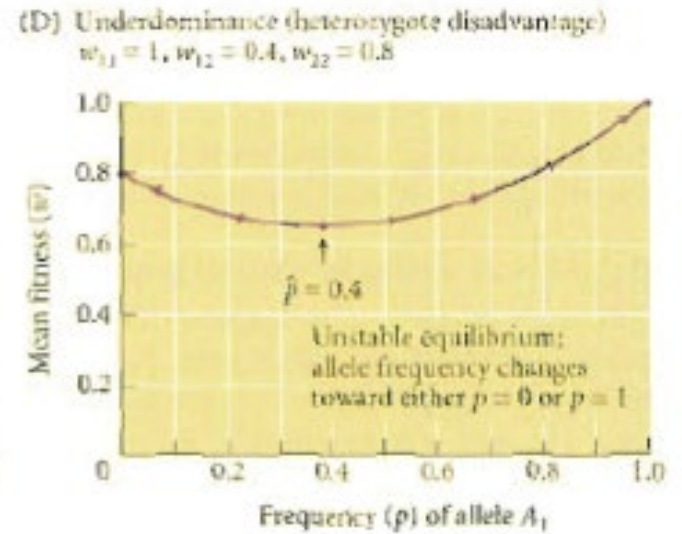
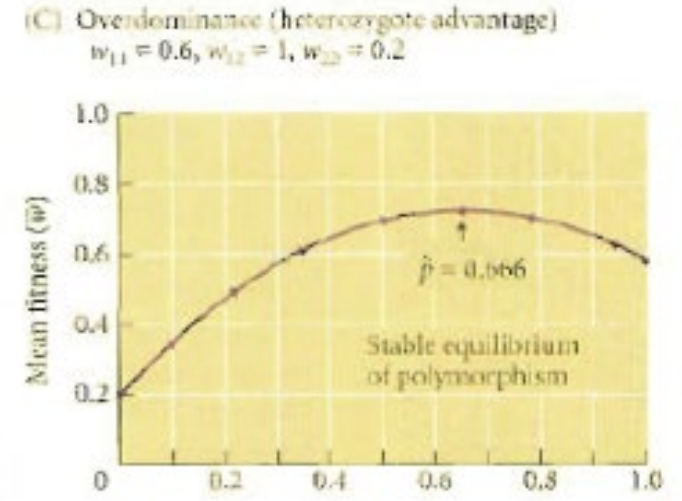
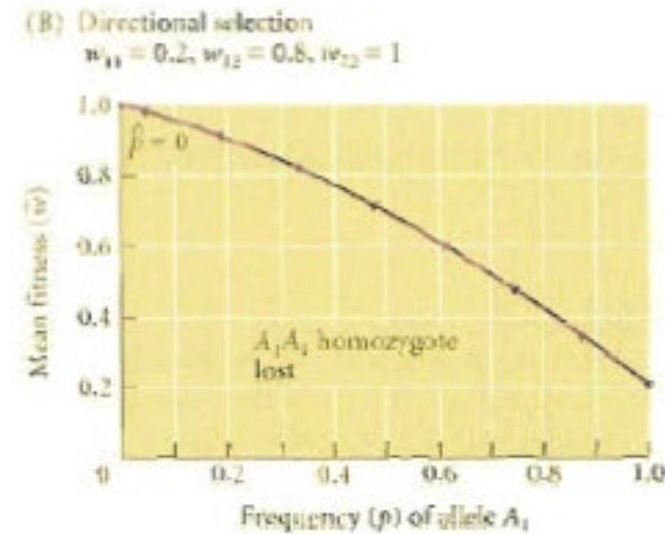
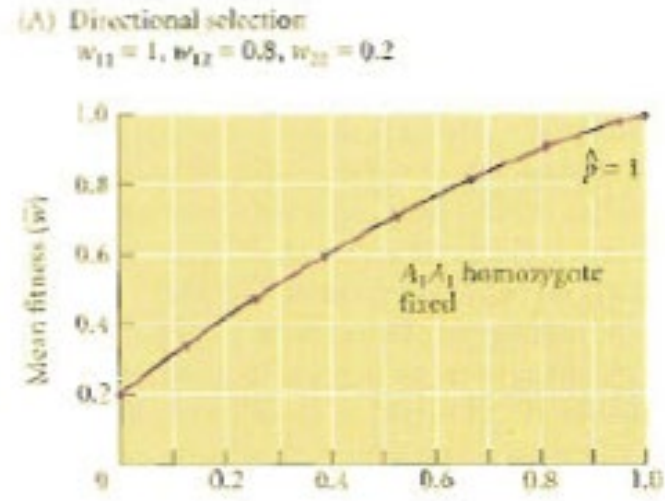
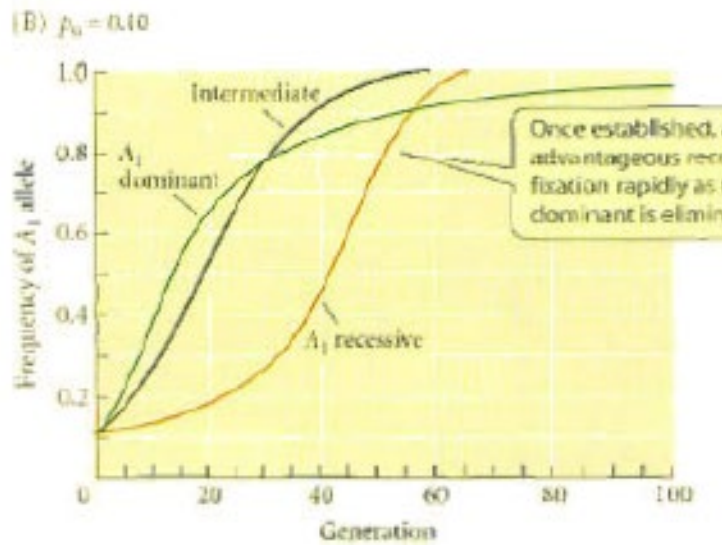
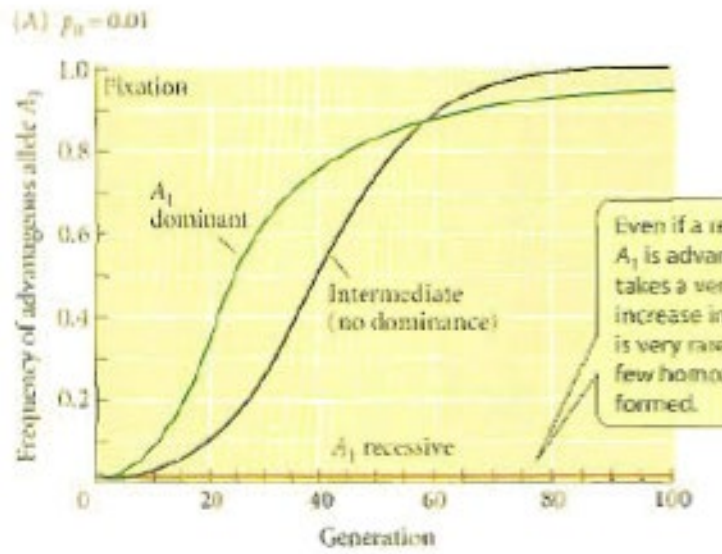


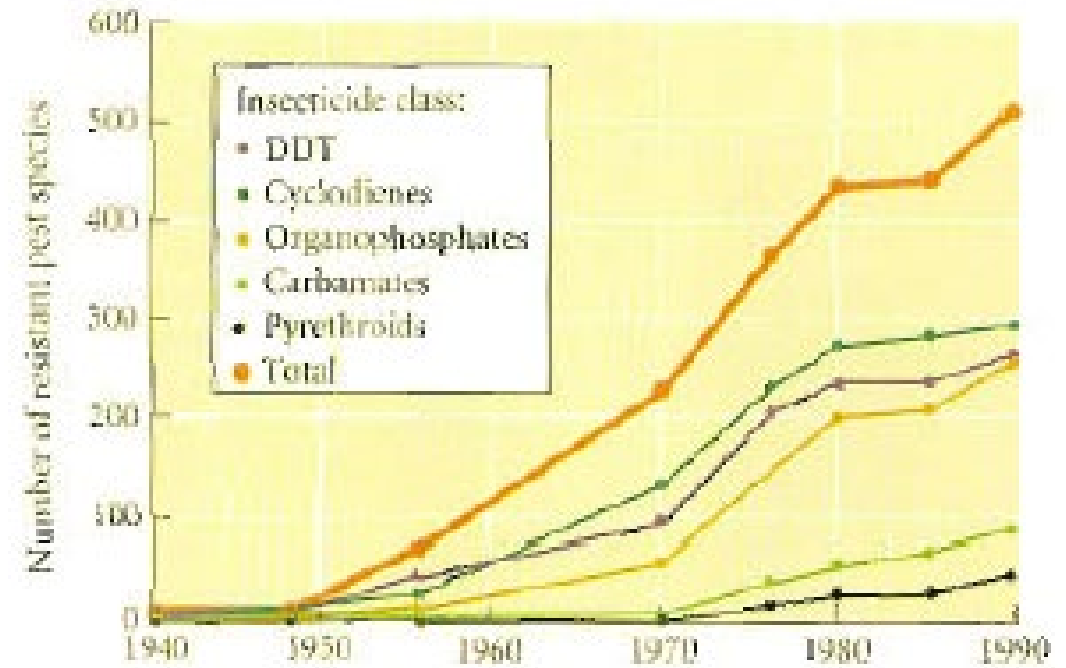
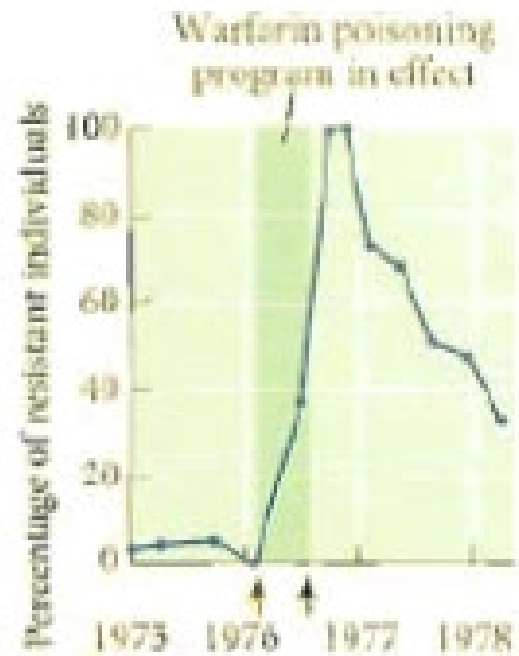
(B) Polymorphism (2 alleles at 1 locus)



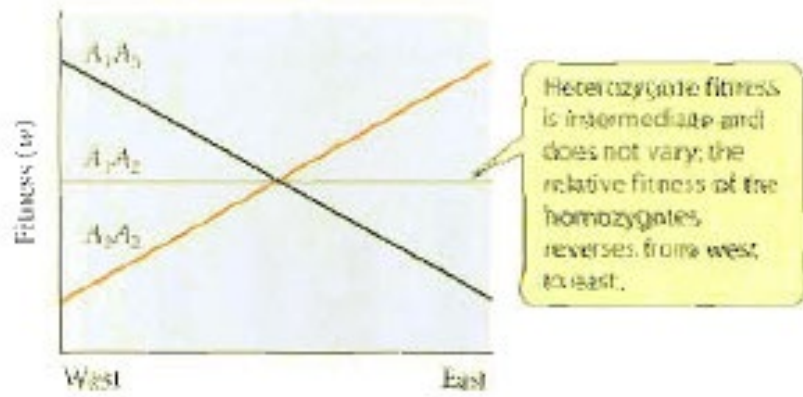








(A)



(B)

