TEXT READINGS

pp. 18-20; 97-111

VOCABULARY

niche           habitat           fundamental niche  realized niche
competition     predation         cannibalism         mutualism
altruism        parasitism        amensualism         comensualism
niche shift     exploitive competition
competitive asymmetry scramble competition
Lotka-Volterra dispersal
lek              competitive exclusion
competitive release apparent competition
intraspecific competition
interspecific competition
“n-dimensional hypervolume”

STUDY QUESTIONS

1. Contrast a species niche with its habitat.

2. Explain the concept of the niche as involving a “n-dimensional hypervolume”. Give several examples.

3. Contrast the fundamental niche of a species with its realized niche. Provide several examples to illustrate your explanation.

4. Discuss the various ways individuals and species may interact. Describe the effects of these interactions on different species.

5. Contrast exploitive competition with interference competition. Provide examples of each.

6. Describe some examples of allelopathy.

7. Contrast scramble competition with contest competition. Provide examples of each.

8. With the aid of diagrams, explain the possible outcomes of competition between species as predicted by the Lotka-Volterra competition models.

9. Describe the various ways that species may disperse. Discuss the trade-offs, in terms of costs and benefits to dispersal. Under what circumstances would dispersal be an effective “strategy”?

10. How would territoriality influence population size in a species? Provide some examples to illustrate your discussion.
11. Give an even-aged population of attached organisms (e.g., plants or barnacles), what would you predict about population size as the individuals get larger?

12. Define the competitive exclusion principle. How may two species that share common resources minimize competitive interactions when they co-occur?

13. How does spatial and temporal heterogeneity inhibit competitive exclusion?

14. Discuss how two non-competing species may appear to be competing with each other.