CHAPTER 8

COMMUNITY ECOLOGY

Summary

1. The three characteristics that ecologists use to describe a biological community are physical appearance, species diversity, and niche structure.

2. Species play different roles in a community. Native species sustain the ecosystem of which they are a part. Some non-native species will crowd out native species. Indicator species have demanding needs or have specific sensitivities that make them good indicators in terms of the presence or absence of a particular condition in the environment. Keystone species play ecological roles in the specific community: they may assist in pollination and help regulate populations. Foundation species affect the community's habitat to the benefit of other species.

3. Species interact with each other in different ways: interspecific competition (for shared or scarce resources), predation, parasitism, mutualism, and commensalism.

4. Carnivorous predators pursue their prey, ambush them, or use chemicals to immobilize them. To avoid predators, prey species have a variety of ways to defend themselves: their ability to run, swim, or fly fast; a keen sense of smell or sight; protective shells, spines, or thorns; camouflage techniques; chemical warfare, mimicry, or behavioural strategies.

5. As environmental conditions change, one species may be replaced by other groups of species. This gradual change in the composition of species in a given area is called ecological succession.

6. A community has three aspects of stability or sustainability in living systems: its persistence (the ability to resist being altered), its constant population, and its resilience in repairing damage. High biodiversity may give a community some edge in surviving.

