

## NICHE CONCEPT

Every organism has a place to live in nature, a functional role in that place, and a complex set of adaptations for reproducing its kind. On the surface, this observation might seem to be obvious, even trivial. However, in order to understand our biological world—the biosphere, how it operates and ultimately how to protect it—we need to understand at a deep level how organisms interact with each other and with their physical environment.

In this chapter we will examine further some of the concepts that ecologists use to organize their thoughts about the ways in which organisms use their environment, relate to each other, and assemble into communities or ecosystems. The most fundamental and perhaps most difficult of these concepts is that of the **ecological niche**. A niche refers to the way in which an organism fits into an ecological community or ecosystem. Through the process of natural selection, a niche is the evolutionary result of a species' morphological (morphology refers to an organism's physical structure), physiological, and behavioral adaptations to its surroundings. A **habitat** is the actual location in the environment where an organism lives and consists of all the physical and biological resources available to a species. The collection of all the habitat areas of a species constitutes its **geographic range**. We will examine each of these concepts in turn using a historical approach where appropriate and discuss how these ideas can help us to understand the issues of modern conservation biology.