

CHAPTER 9

LIFE ON THE LAND

Then God said, "Let the earth bring forth living creatures after their kind: cattle and creeping things and beasts of the earth after their kind"; and it was so.

Genesis 1:24

The first act in the drama of animal life, as we have noted, took place in the sea. The waters teemed with swarms of living creatures, and the fish were the stars of the show. The development of animal life then abated for 50 million years, but behind the curtain of ceased activity, the stage was being set for the invasion of the land.

Before life could exist on the land, there had to be a suitable food source (see figure 9.1). Just as plant life on land probably first developed in marshes and swamps, so the same pattern probably held for animal life. Insects, worms, and snails followed the vegetative advance. They provided a tempting food source for larger marine animals that could crawl out of the water to snatch a few tasty morsels.

The transition of animals from water to land is a difficult one. Major and diverse modifications are required for a fish to change into a four-legged, air-breathing animal that crawls across the surface of the land. Problems of breathing, water retention, reproduction, and locomotion have to be solved. Stronger and more rigid internal skeletal support is required without the medium of water for support. A fish out of water is helpless indeed.

In this chapter we are going to cover the appearance of the amphibians, the reptiles, and their dominant forms -- the dinosaurs and the mammals. These are the animals of the land that crawled, walked, and galloped onto the pages of history during the later eras of geologic history.