

times, though most of the females are sterile. In humans, about 106 males are born for every 100 females. However, in the United States, by the time people reach their mid-twenties, a higher death rate for males has equalized the sex ratio. The higher male death rate continues into old age, when women outnumber men.

AGE DISTRIBUTION

The **age distribution** is the number of individuals of each age in the population. Age distribution greatly influences the population growth rate. As you can see in figure 7.3, some are prereproductive juveniles, some are reproducing adults, and some are postreproductive adults. If the population has a large number of prereproductive juveniles, it would be expected to grow in the future as the young become sexually mature. If the majority of a population is made up of reproducing adults, the population should be growing. If the population is made up of old individuals whose reproductive success is low, the population is likely to fall.

Many species, particularly those that have short life spans, have age distributions that change significantly during the course of a year. Species typically produce their young during specific parts of the year. Annual plants (those that live for only one year) produce seeds that germinate in the spring or following a rainy period of the year. Therefore, during one part of the year, most of the individuals are newly germinated seeds and are prereproductive.

As time passes, nearly all of those seedlings that survive become reproducing adults and produce seeds. Later in the year, they all die. A similar pattern is seen in many insects that go through their entire life cycle in a year. They emerge from eggs as larvae, transform into adults, mate and lay eggs, and die. Animals that live for several years typically produce their young at a time when food is abundant. In northern climates, this is generally in the spring of the year. In regions where rainfall is sporadic (deserts) or highly seasonal (savannas and some forests), the production of offspring usually occurs following rain. Thus, there is a surge in the number of prereproductive individuals at specific times of the year.

In species that live a long time, it is possible for a population to have an age distribution in which the proportion of individuals in these three categories is relatively constant. Since mortality is generally higher among young individuals, such populations typically have more prereproductive individuals than reproductive individuals and more reproductive individuals than postreproductive individuals.

Human populations exhibit several types of age distribution. (See figure 7.3.) Kenya's population has a large prereproductive and reproductive component. This means that it will continue to increase rapidly for some time. The United States has a very large reproductive component with a declining number of prereproductive individuals. Eventually, if there were no immigration, the U.S. population would begin to decline if current trends in birthrates and death rates continued. Italy has an age distribution with high postreproductive

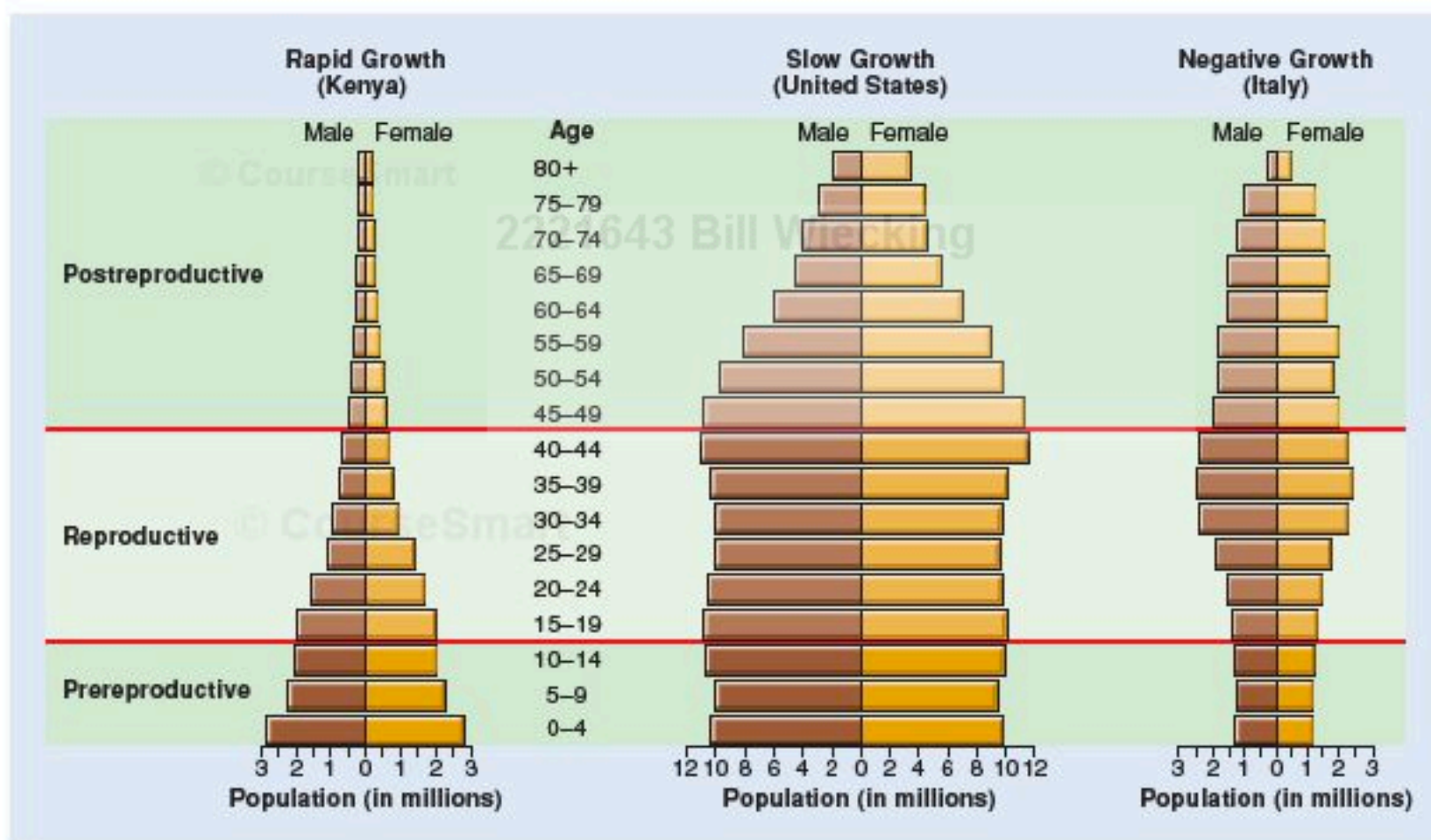


FIGURE 7.3 Age Distribution in Human Populations The relative numbers of individuals in each of the three categories (prereproductive, reproductive, and postreproductive) are good clues to the future growth of a population. Kenya has a large number of young individuals who will become reproducing adults. Therefore, this population is likely to grow rapidly. The United States has a large proportion of reproductive individuals and a moderate number of prereproductive individuals. Therefore, the population is likely to grow slowly. Italy has a declining number of reproductive individuals and a very small number of prereproductive individuals. Therefore, its population has begun to decline.

Source: Data from United States Census Bureau International Data Base.