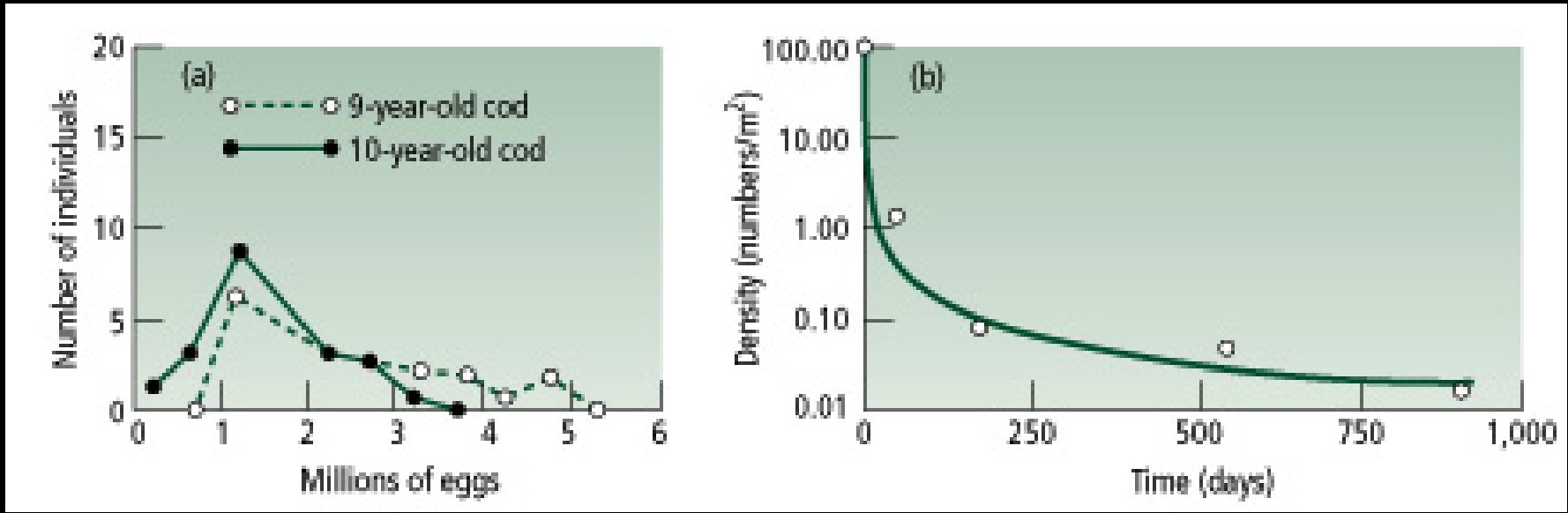
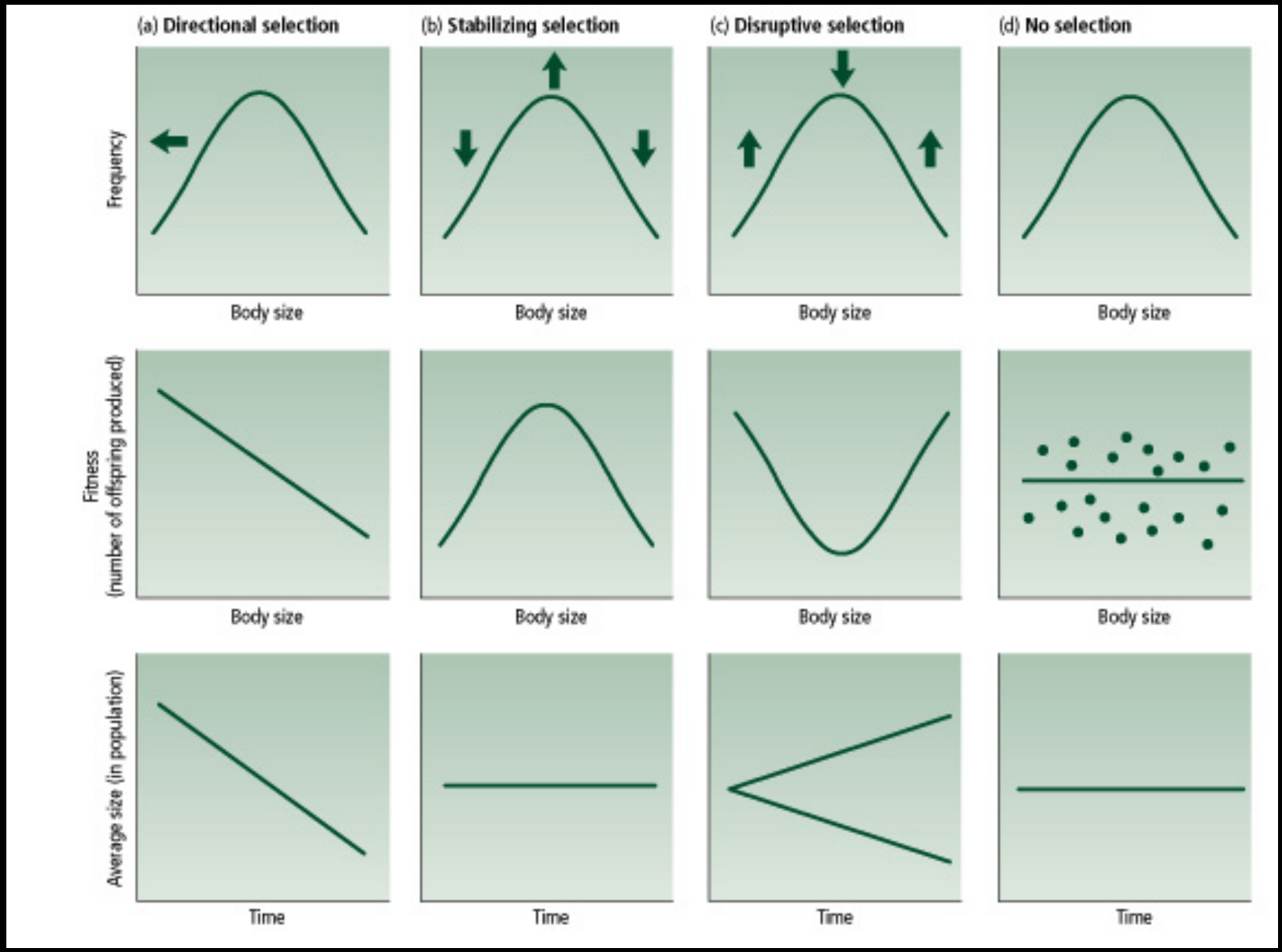
Seleção natural e variação

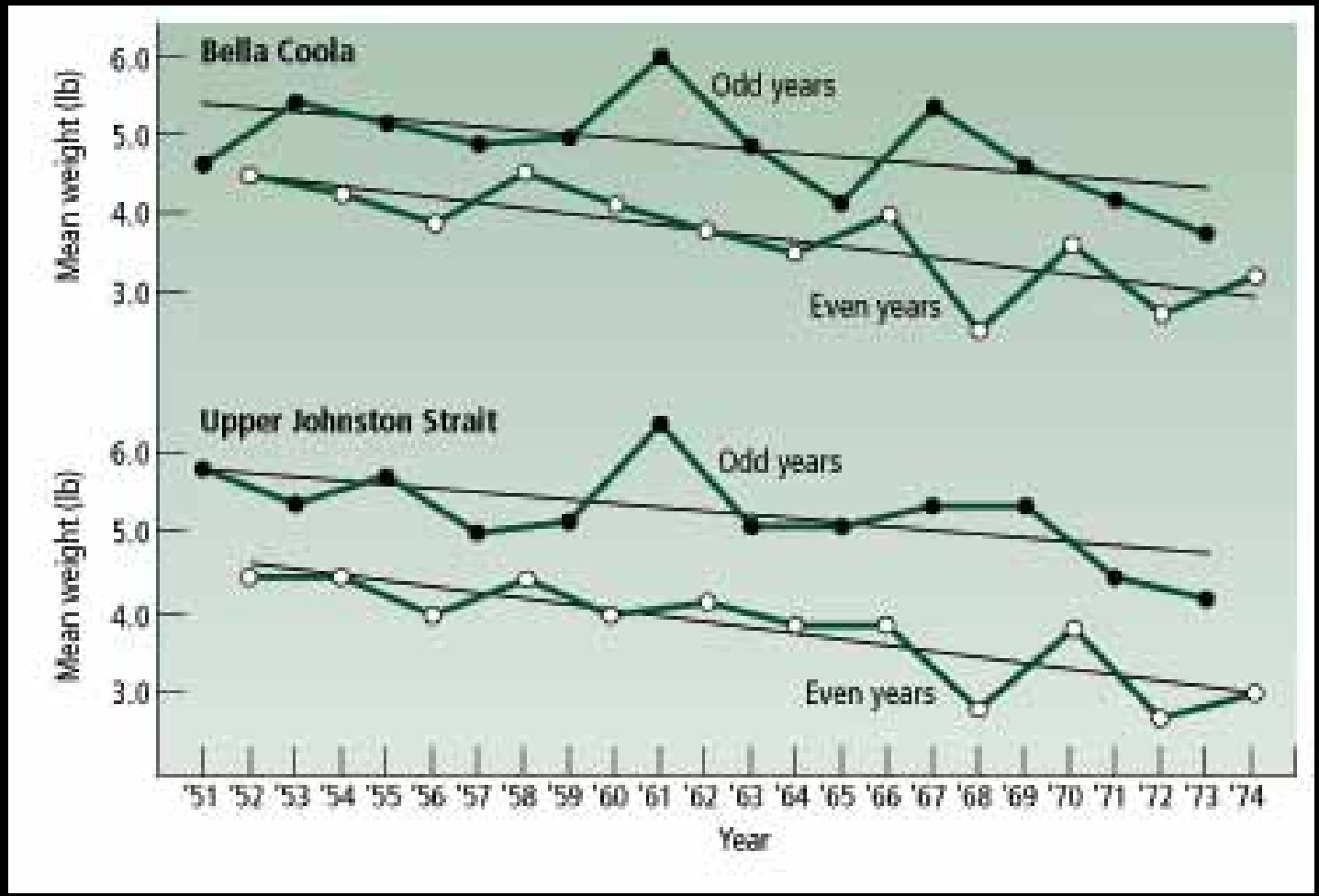
Luta pela sobreviviencia



Tipos de seleção



Seleção direcional



Seleção natural estabilizadora

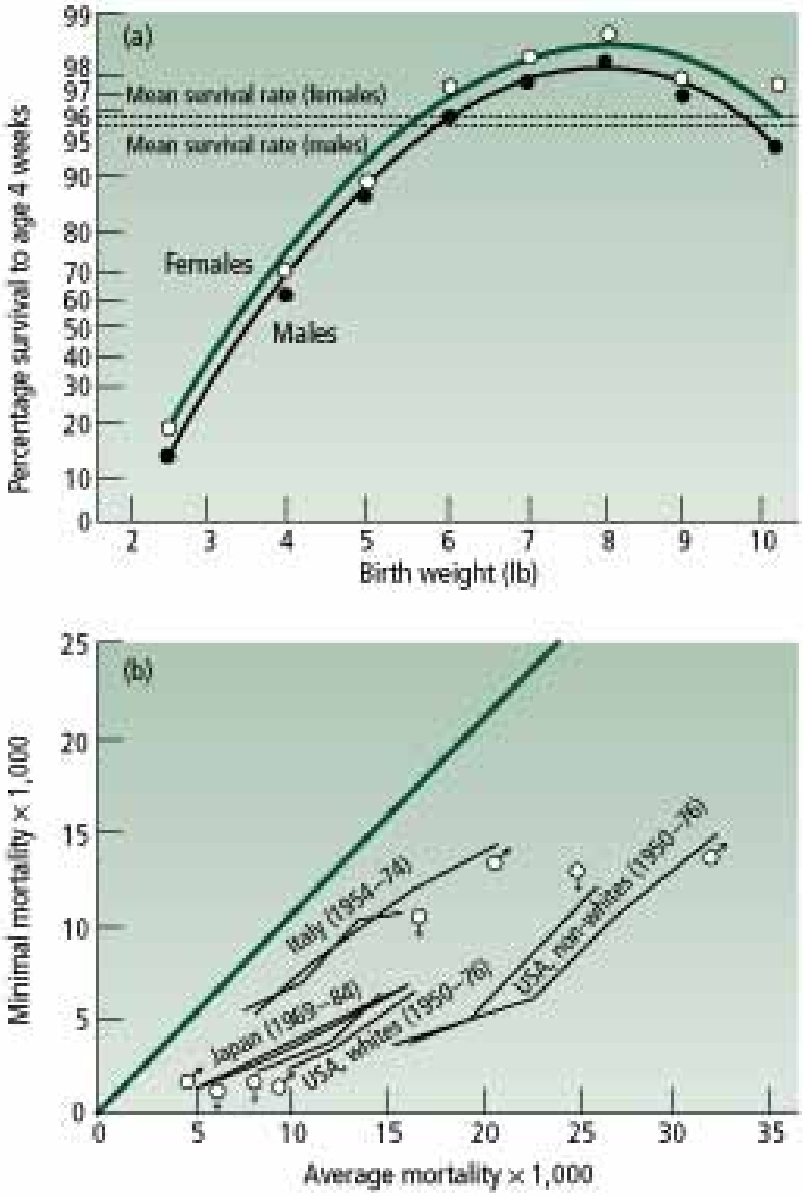
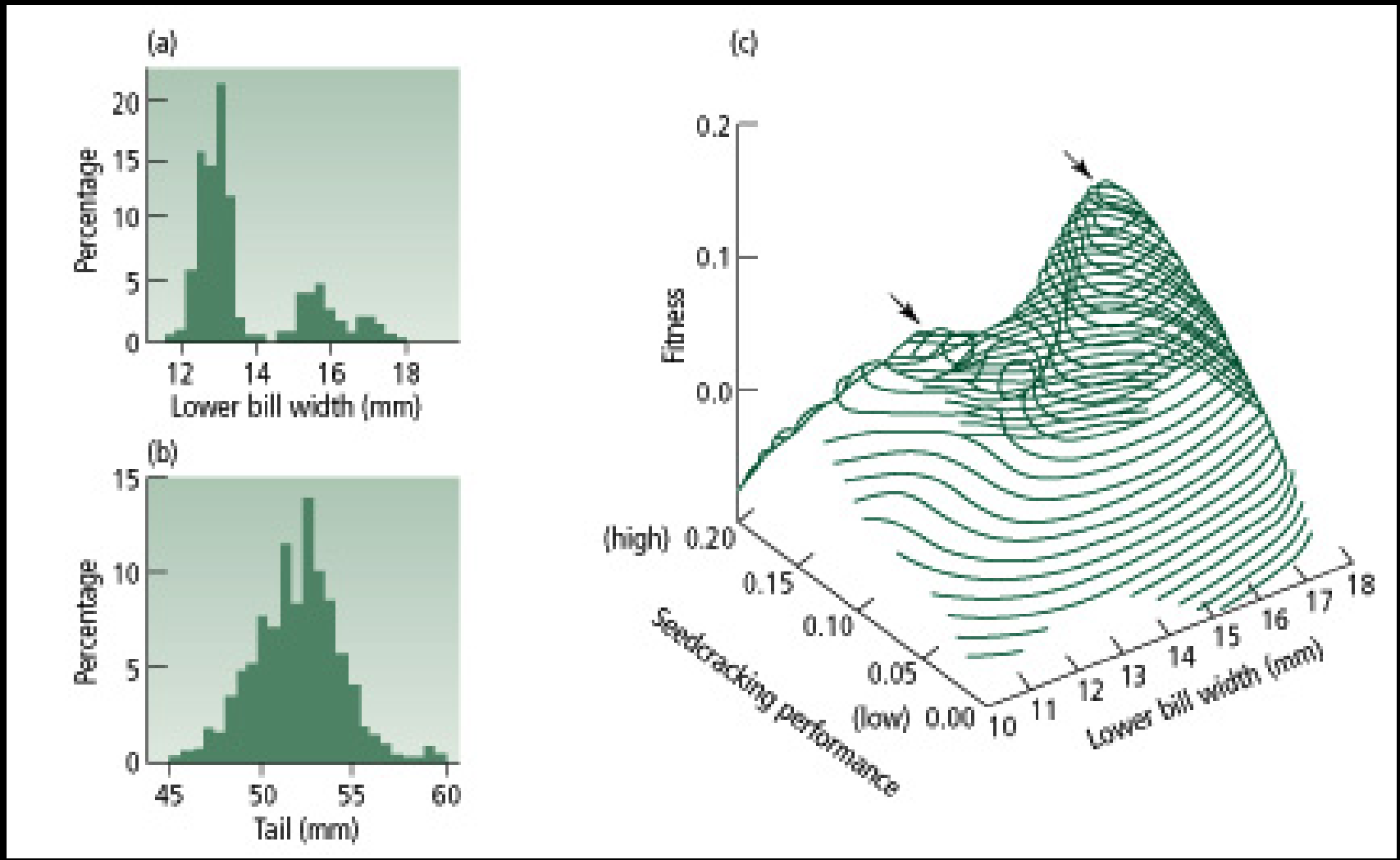


Figure 4.4

(a) The classic pattern of stabilizing selection on human birth weight. Infants weighing 8 lb (3.6 kg) at birth have a higher survival rate than heavier or lighter infants. The graph is based on 13,700 infants born in a hospital in London, UK, from 1935 to 1946. (b) Relaxation of stabilizing selection in wealthy countries in the second half of the twentieth century. The *x*-axis is the average mortality in a population; the *y*-axis is the mortality of infants that have the optimal birth weight in the population (and so the minimum mortality achieved in that population). In (a), for example, females have a minimum mortality of about 1.5% and an average mortality of about 4%. When the average equals the minimum, selection has ceased: this corresponds to the 45° line (the "no selection" case in Figure 4.2d would give a point on the 45° line.) Note the way in Italy, Japan, and the USA, the data approach the 45° line through time. By the late 1980s the Italian population had reached a point not significantly different from the absence of selection. From Karn & Penrose (1951) and Ulizzi & Manzotti (1988). Redrawn with permission of Cambridge University Press.

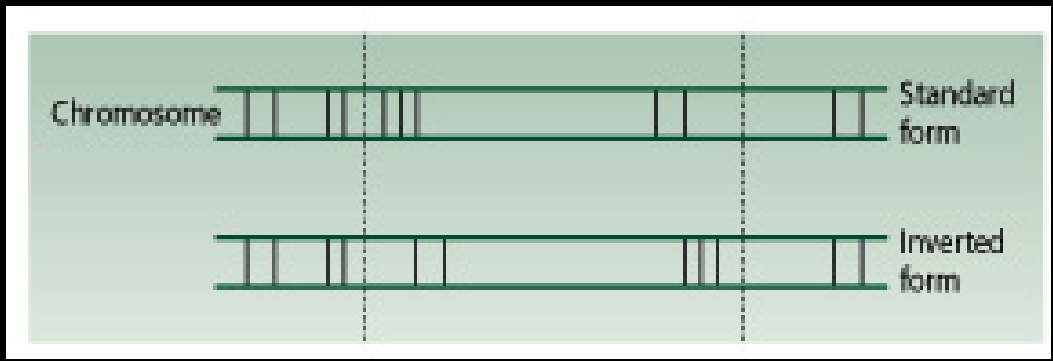
Seleção disruptiva



Variação

Variação morfologica

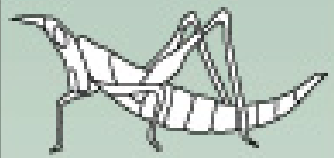
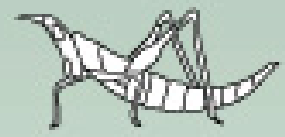
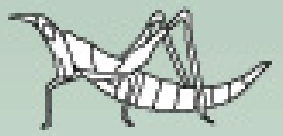
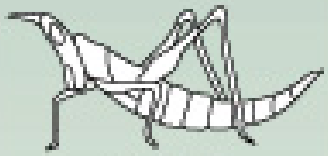
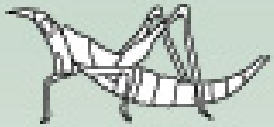
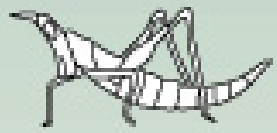
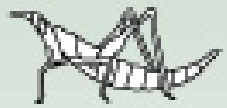
Variação celular



Variação celular

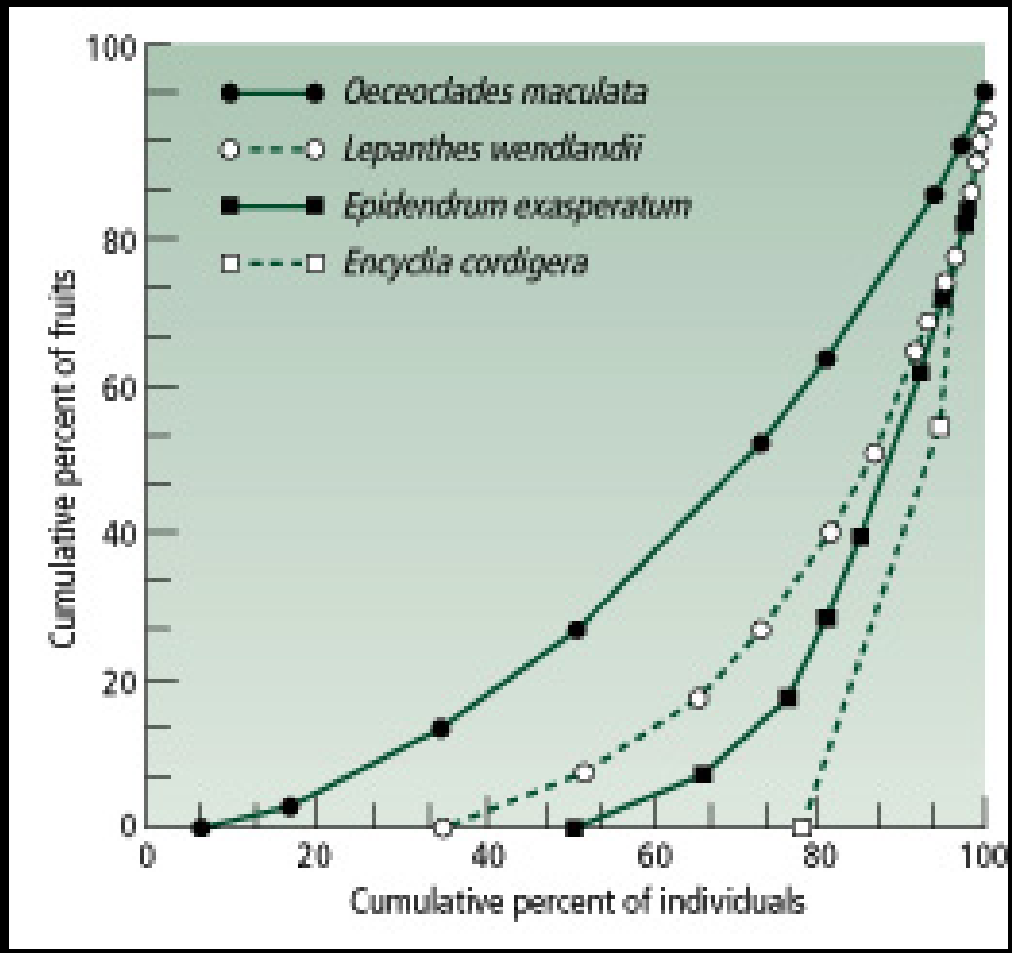
CD chromosome

EF chromosome

	St/St	*St/Bl*	*Bl/Bl*
St'/St'	*n* = 38 *v* = 1.02  *x* = 34.28	*n* = 446 *v* = 1.00  *x* = 33.18	*n* = 1,240 *v* = 0.93  *x* = 32.75
St'/Td	*n* = 8 *v* = 0.64  *x* = 35.00	*n* = 127 *v* = 0.85  *x* = 32.53	*n* = 468 *v* = 1.05  *x* = 31.75
Td/Td	*n* = 0	*n* = 13 *v* = 1.05  *x* = 32.63	*n* = 23 *v* = 0.62  *x* = 29.25

Variação ao nível bioquímico

Variação ao nível de DNA



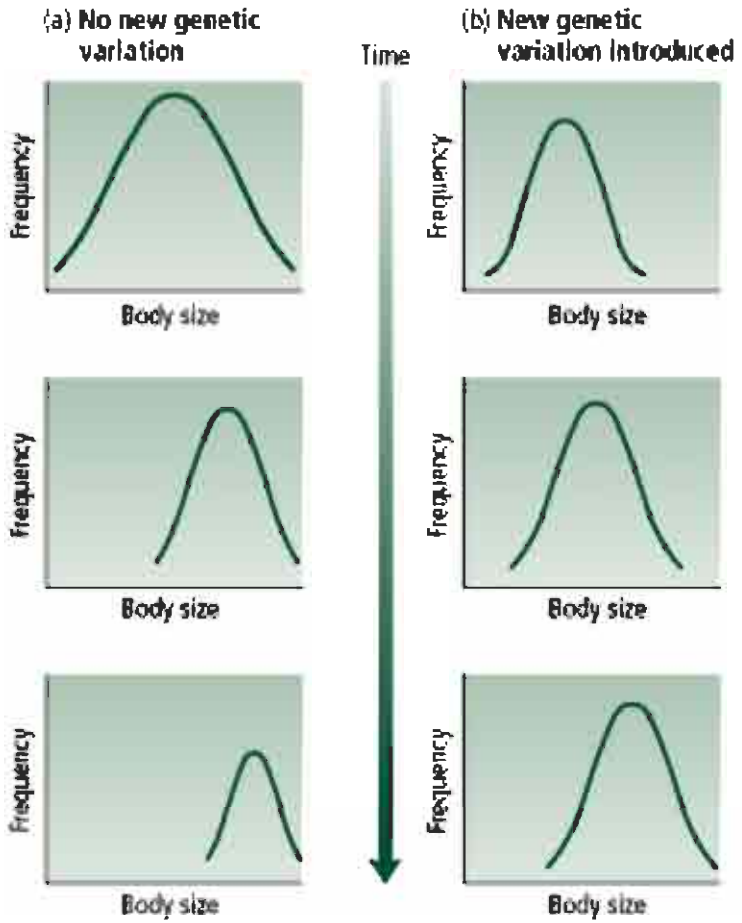


Figure 4.9
Natural selection produces evolution by working on the variation in a population. (a) In the absence of new variation, evolution soon reaches the limit of existing variation and comes to a stop. (b) However, recombination generates new variation as the frequencies of the genotypes change during evolution. Evolution can then proceed further than the initial range of variation.