



FIGURE 22.27. (A) In allopatric speciation, two populations are separated by some geographic barrier; they therefore diverge in complete independence. (B) In parapatric speciation, divergence occurs within a broadly continuous habitat; the diverging populations are separated by a set of clines (*dotted line*). (C) In sympatric speciation, there is no spatial separation whatever: nonrandom mating arises solely from genetic differences and not from spatial separation. These three cases represent extremes: in reality, speciation involves elements of each. The geographic pattern may change through time and may differ between genes and traits.