

A



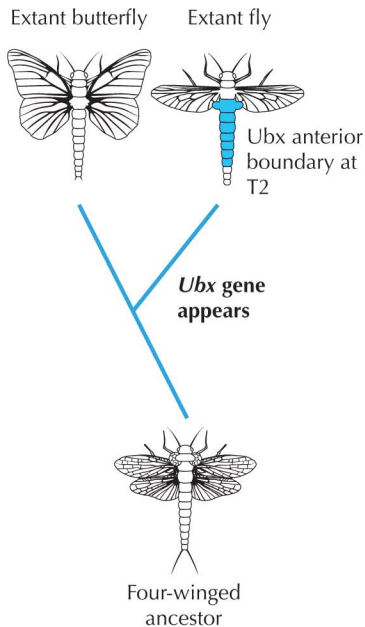
B



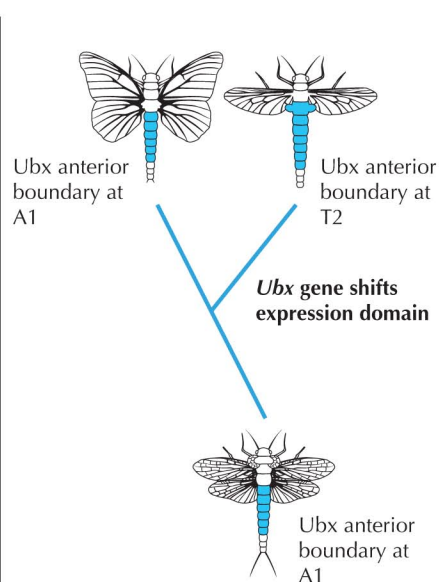
C



D



E



F

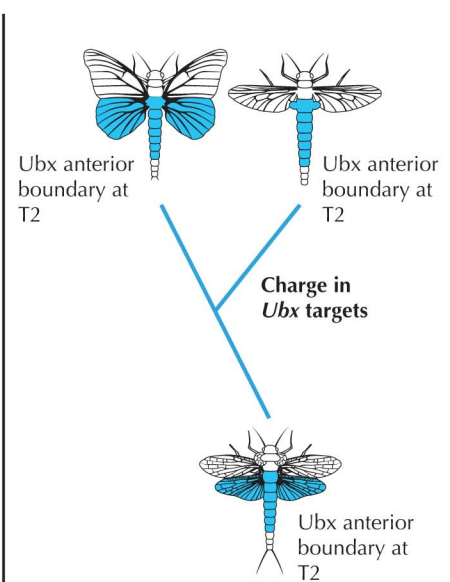


FIGURE 11.9. Examples of four-winged insects include dragonflies (A) and butterflies (B), whereas flies (C) are two-winged insects. (D–F) Three hypotheses for the evolution of two-winged insects from a four-winged ancestor. In D, there was no *Ubx* gene in the ancestor, and it arose only in the lineage leading to flies. In E, the anterior expression boundary of *Ubx* shifted anteriorly from A1 to T3. In F, the pattern of *Ubx* did not change, but the targets of *Ubx* regulation did. As explained in the text, the data available suggest that the third hypothesis, shown in F, is the most likely explanation.

11.9A–C, Nipam H. Patel; 11.9D–F, modified from Carroll S.B. et al., *From DNA to Diversity: Molecular Genetics and the Evolution of Animal Design*, 2e, p. 148, © 2005 Blackwell Publishing