



FIGURE 11.33. The *Pax6* gene controls eye development in many animal species. (A) Wild-type mouse embryo with a normal eye. (B) In an embryo heterozygous for a mutant allele of *Pax6* (the gene is called *Small-eye* [*Sey*] in mice), the eye is reduced in size. (C) In an embryo homozygous for the *Sey* mutation, the eye, along with the nose and other parts of the face, is completely absent. (D) Humans heterozygous for a mutation in *Pax6* (the gene is called *Aniridia* in humans) have eye defects that include the loss of the iris. A few rare human embryos homozygous for *Pax6* mutations show a complete loss of the eye, nose, and facial structures just as seen in mice. (E) Wild-type *Drosophila* with a normal eye. (F) Mutation of *Pax6* (the gene is called *eyeless* in flies) results in severe disruption of the eye. Complete elimination of *eyeless* results in headless flies.

11.33A, Halder G. et al., *Science* **267**: 1788–1792, ©1995 American Association for the Advancement of Science;
 11.33B, Gehring W.J., *J. Hered.* **96**: 171–184, © 2005 Oxford University Press