FIGURE 15.3. Random drift in experimental populations of *Drosophila melanogaster*, propagated with eight males and eight females. (A) The distribution of allele frequencies across replicate populations, all started at $p = 0.5$. Populations that had fixed one or the other allele are shown at left and right. (B) The variance in allele frequency generated by drift in a single generation. The experimental data (circles) show the variance in allele frequency among populations that had frequency $p = \frac{1}{2}$ or $\frac{1}{2}$ in the previous generation. (C) The accumulated increase in variance of allele frequency over 19 generations. (This is the increase in variance of the distributions shown in A.) In B and C, the lower curve shows the variance that would be expected from the actual number of flies ($\text{var}(p) = \frac{pq}{2N}$, $N = 16$), whereas the upper dashed curve shows the variance assuming an effective population size $N_e = 11.5$.