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 $p = \frac{1}{32}, \frac{2}{32}, ..., \frac{31}{32}$ 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 (var(p) = $pq/2N$, N = 16), whereas the *upper dashed curve* shows the variance assuming an effective population size N_e = 11.5.