FIGURE 23.26. Separate sexes can evolve from an initially hermaphroditic population through the fixation of two mutations. First, a recessive allele $M^s$ arises that causes male sterility when homozygous ($M^sM^s$), hence producing females. The other genotypes ($M^sM^f$, $M^fM^f$) remain as hermaphrodites, and so a polymorphic gynodioecious population is formed. Next, a dominant female sterility mutation, $F^s$, arises at a linked locus. Now, individuals homozygous for $M^sF^f$ (top right) are female, and those heterozygous for $M^sF^f/M^fF^s$ are male. There is strong selection for tighter linkage between the two loci, because recombinant genotypes such as $M^sF^s/M^sF^f$ are completely sterile.


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