FIGURE 19.24. Sequence diversity gives evidence for selection on a color polymorphism in the Jamaican click beetle, *Pyrophorus plagioptthalamus*. (A) Two different luciferase genes are expressed in the dorsal and ventral light-producing organs (only the dorsal organs are shown), and variation in each of these genes is responsible for separate polymorphisms. The ventral luciferase has three alleles, yellow-green (vYG), yellow (vYE), and orange (vOR). (B) The three alleles generate five phenotypes; vYG homozygotes (labeled YG), vYG/vYE heterozygotes (phenotype GY), and so on. The McDonald–Kreitman test shows a significant excess of amino acid change in the region that affects color. The vOR alleles show significantly lower sequence diversity than the vYE alleles ($\pi = 0.00046$ vs. $\pi = 0.00129$), suggesting that the vOR allele has recently increased.


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