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| Lab Analysis Questions based on article/cartoon |

1. In what situations would you expect the silent wing mutation to be favored by natural selection? In what situations would you expect the normal wing version to be favored by natural selection? List at least two ideas for each.

If there are predators nearby, then the silent wing mutation would be favored, as predators won’t be able to hear the cricket. Then, another situation where the silent wing mutation would be favored is when there is a fly-infested island, the silent males are able to survive until the next day to mate. Furthermore, a normal wing would be favored in the aspect of mating. The noisy crickets can call out and attract other mates. The females find the male’s songs attractive. So, the noisy males can find mates, and sing.

1. Read the comic strip [Survival of the Sneakiest](https://evolution.berkeley.edu/evolibrary/article/sneakermales_01), which discusses the concept of evolutionary fitness. Explain what fitness means in terms of the Kauai crickets. What traits contribute to fitness in these crickets?

In the terms of the Kauai crickets, fitness is associated with the survival skills of a cricket. Some traits that would contribute to fitness to these crickets would be the mutated males and the noisy males. For instance, the mutated silent males would survive and evade predators for longer, but females would find the noisy males more attractive than the mutated males.

1. How has sexual selection (natural selection arising through preference by one sex for certain characteristics in individuals of the other sex) affected male crickets on Kauai? How might sexual selection have affected female crickets on Kauai?

Sexual selection has affected the male crickets on Kauai because since females find the males who can sing attractive, the silent males would not be able to mate easily. Due to this factor, the silent males would quickly be wiped out. But, since the noisy males alert predators, then the silent males would have a chance to mate with the females, and then their offspring would adapt through natural selection. Then, this sexual selection would affect female crickets since they can be attacked and eaten if they chose to mate a noisy male at the wrong time.

1. This news brief describes traits which have been affected by sexual selection. Research and describe traits in other three other organisms that have been affected by sexual selection.

Some other organisms affected by sexual selection are peacocks, koalas, and widow-birds. For the peacock, the females prefer the males with bright and magnificent feathers on their tail. Moreover, female koalas prefer bigger sized male koalas due to the different sound they will make. Likewise, the female widow-birds prefer males with longer tails.

1. Imagine that the parasitic fly goes completely extinct on the island of Kauai. Over the next five years how would you expect the cricket population on Kauai to evolve? Explain your reasoning.

If the parasitic fly goes extinct on Kauai Island, then over the next five years, the mute males would be wiped out. This is due to the females finding the noisy males to be more attractive, and since there is no distinct predator, the females can freely choose who they want to mate with. The noisy male crickets would remain on the island, and the mute male crickets would be nearly depleted.