HABITAT

Honey Creeping

HINTS

What invasive species have led to the reduction of Honeycreepers?	mosquitoes, pigs, goats, cats, other birds, mongoose, rats, non-native ants, man
How do Honeycreepers get bird malaria?	from a mosquito that carries a parasite
What environmental factors do the mosquito and the parasite that cause bird malaria both depend heavily on to reproduce?	rainfall and warmer temperatures
Where do the eggs and larvae of mosquitoes develop?	in water
If the climate of Hawaii became warmer, what do you predict will happen to the number of birds with malaria. Why?	more cases because mosquitoes reproduce faster in warm climates

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Would releasing sterile male mosquitoes decrease the chance of a honeycreeper living at a high elevation contracting bird malaria? Why?	no, mosquitoes don't live in the cool, dry high elevations.
If the lower elevations of Hawaii had a drier than normal season, would you expect the incidence of bird malaria to increase? Why?	no, drier weather means fewer mosquitoes because they can't reproduce as much.
What is an easy way people can help reduce the mosquito population?	Make sure they do not have standing water on their property.
Why are ʻōhiʻa trees so important in maintaining the honeycreeper population?	They provide nesting sites and food.
What strategies do Hawaiian honeycreepers have for dealing with malaria?	They avoid it by moving to higher elevations where the mosquitos cannot survive due to cooler and drier conditions or they adapt to it by remaining in the lowlands and developing immunity to the disease.

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While vacationing in Hawaii, a mosquito bites you. How would you know if it was a male or female?	Female, because only female mosquitoes seek a blood meal.
If you were a honeycreeper and wanted to play it safe and completely avoid bird malaria, which elevation would you live at and why?	High elevation where mosquitoes cannot survive due to cooler and drier conditions.
If you were a honeycreeper and wanted to produce the most offspring, which elevation would you live at and why?	Low elevation because it has the greatest food resources.
What are some ways scientists are intervening and trying to save the honeycreepers?	~Genetically engineering mosquito males that won't produce viable offspring and releasing them ~injecting eggs with a fertility-altering Wolbachia bacteria strain and raising the male mosquitoes to release into the wild ~developing a vaccine for the birds ~finding ways to get rid of invasive species that harm the honeycreepers ~saving the ʻōhiʻa trees and other natural vegetation