

Check your understanding



1 You read in this paper that bats can transmit diseases like Ebola to people. So do we have to fear all bats, like many people believe? Do they mean to hurt us or make us sick?

Answer

No, not at all. In fact, the bats are unwillingly carrying viruses, and transmit them to us through no fault of their own. When bats are infected, they don't get aggressive, approach people or even try to bite them. Quite the contrary, it is often people who initiate contact with bats, either directly by hunting them for "bush meat," going caving, or getting close to their roosts. Or we cause bats to move (often closer to people) indirectly by cutting down forests and thereby reducing the habitat and food available for the bats.

2 In our study, we looked at migration patterns of bats (among other things). What other animals do you know that migrate, and why?

Answer

Many animals migrate. The most common examples are birds, whales and monarch butterflies. Often animals migrate to find areas with more food or warmer temperatures to raise their young, or warmer areas to spend the winter.

3 Viruses like the Ebola virus are often deadly to people. What do you think: Is it in the interest of the virus to kill all of its hosts?

Answer

If a parasite or a virus kills of its hosts quickly, it will likely die along them. It is therefore beneficial for viruses to reproduce more slowly and not kill all their victims (or survive in reservoirs like bats).

What can bat migration patterns tell us about Ebola epidemics?

TEACHER'S KEY

4 Does the Ebola virus make bats sick too?

Answer

Not that we know of. We do know that bats can survive Ebola infections. Why is that so? Interestingly, it may be the ability to fly that keeps bats from getting sick from the virus: flying uses a lot of energy, and heats up the body. The higher temperature might help the bats to fight off infections (kind of like a fever helps us to fight off pathogens).

5 What can we all do to protect bats better, and reduce their likelihood to transmit diseases to humans?

Answer

It is important to protect the habitats of bats. Many bats roost in hollow trees, which are more common in old growth forest. Protecting forests gives bats a place to live, so they don't retreat to places closer to humans. This is especially important for tropical area. Many tropical forests (where a lot of bats live) are being cut down for food production, for instance to make palm oil plantations. Many products that we buy everyday use contain palm oil, which links our consumption patterns with the destruction of habitat of many rainforest animals (including bats). Protecting their forest and keeping these wild animals that belong there in their natural habitat (and further away from human settlements) is beneficial both for them and for us!