

Kids Ask Dr. Bug

Home to more than plants, kids ask Dr. Tamra Reall about the curious things found in the garden.

Are insects right or left-handed? Charlotte, 9

It turns out that some insects have a preference for right or left – honey bees, bumble bees, ants, locusts, and cockroaches are some of the insects that scientists have discovered have “handedness”. Roaches are right-handed. Ants have a left bias. Individual bumble bees tend to turn one way more frequently. Individual locusts reach with a preferred foreleg when crossing a gap. And, many individual honey bees prefer to go in the same direction when given a choice, even when more difficult. Scientists don’t know why animals have handedness but think it might help them be more efficient.



Do bugs carry viruses that humans can get? Janette, kid at heart

Yes, and there is a name for insects that transmit diseases - vectors. The germs, or pathogens, that cause these diseases are bacteria, protists, fungi, nematodes, and even viruses. Mosquitoes are an example of a vector that can carry many diseases. In fact, the mosquito is the most dangerous animal on earth (<https://youtu.be/HZFmIBTYGSQ>, or scan the QR code). Some viruses vectored by mosquitoes are Zika, West Nile, and Chikungunya. A mosquito can pick up the virus when feeding on an infected person. Then, some of the virus is regurgitated when she feeds on another person. The best defense against getting these diseases is to eliminate standing water, such as in gutters or containers after a storm, and to wear insect repellent. Some insects can also vector diseases to plants, such as the peach-potato aphid that can infest more than 700 plant species and vectors over 100 viruses.



Follow-up: Have insects gotten sick from viruses and died of them? Janette

There are many diseases that insects can get – some kill insects, others can keep their victims from reproducing, and sometimes, there is no noticeable effect. Some diseases can hurt insects that we want to protect, such as bees that get deformed wing virus vectored by a mite, or Monarch butterflies that are infected by the protozoan (*Ophryocystis elektroscirrha*). Monarchs are usually only killed by this pathogen when people raise them. So, we recommend leaving Monarch caterpillars outside in the milkweed patches. On the other hand, sometimes we use pathogens to control unwanted insects. These natural diseases can be used to control pests and are called biological controls.

Do some spiders only have 2 eyes? Brydn, 11

While most spiders have eight eyes, and some have only six or four, there are a few that only have two. An example is some spiders in the Caponiidae family. These tiny spiders are found in Central and South America. These two simple eyes see the motion, size, and shape of objects to help find their prey, and keep them from being eaten themselves. Another interesting fact: Scientists in Europe discovered a spider species deep in a cave that doesn’t have eyes as adults! With no light to see, their eyes went away.

Do you have questions for Dr. Bug? Send them to ReallT@Missouri.edu. Please include your name and age.

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