

Kids Ask Dr. Bug

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

I found a beetle. Can you tell me what it is so I can feed it? (See image “A”) Zella, 8

This looks like a white-margined burrower bug (a true bug, although it looks similar to a beetle). This tiny (~1/4 inch) beetle feeds on seeds, such as those of wildflowers and especially nettle and mint. Usually, folks don't see many of these bugs in a garden, but occasionally there can be hundreds or thousands. This year, I've received a few reports of these beetles and found many in my own garden as well. This insect is interesting as most insects are solitary and do not provide care to their offspring once the eggs are laid. This bug is different – once the eggs are laid in the ground, the momma bug stays for a while to protect the eggs and brings food for the new hatchlings for the first few days.



How do ladybugs fly with their hard wings? Russell, 9



The bright red, spotted wings you see when ladybugs are crawling on a plant are hard, outer wings, also known as elytra, that protect the soft transparent wings tucked underneath. It is a fascinating process to see how ladybugs, as well as many other beetles, fold and unfold these much larger wings under their elytra. Sometimes, they even use their abdomen to help tuck their flying wings under the elytra. This link (<https://bit.ly/wingfolding>, or scan the QR code) shows the intricate folding and unfolding process in slow motion.

These leaves are so pretty! How do they get this way? (See image “B”) Maggie, 9

These leaves are victims of Japanese beetles. These beautiful, shiny bronze and emerald-green beetles have a voracious appetite for the fleshy parts, but not the veins, of leaves. What is left after beetles feed is a skeletonized leaf which is pretty, but not so good for the plant as plants need the whole leaf to produce food to survive. Japanese beetles are a new-ish pest in the US. They are called invasive insects as they came from far away, cause problems, and don't have many natural predators. They are well adapted to our area where they thrive and eat all the leaves of many trees and other plants. Fortunately, the adult beetles are only active about six to eight weeks of the year and, if plants are healthy, they can usually grow new leaves. A good way to control these beetles is to collect them in a container with soapy water. It's best to do this each morning because the beetles release a pheromone to attract more beetles throughout the day. Also, a natural predator of Japanese beetle, the tiny *Tiphia* wasp, has made its way to Missouri and will help keep this pest in check. Don't worry, this wasp won't hurt you and is so small, you probably won't even see it.



How do insects stay cool when it is so hot outside? Chris, 17

Insects are cold-blooded so their body temperature can change based on the temperature outside. When it is very hot, water becomes very important, and many insects will seek out moisture. Water

Tamra Reall (@MUExtBugNGarden) is a horticulture specialist for MU Extension – Urban West Region. For free, research-based gardening tips, call 816-833TREE (8733), email Mggkc.hotline@gmail.com, or visit extension2.missouri.edu. The University of Missouri is an equal opportunity/access/affirmative action/pro-disabled and veteran employer.

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Home to more than plants, kids ask Dr. Tamra Reall about the curious things found in the garden. helps insects regulate their temperature and environment. Insects may seek moisture from plants, soil, and your house. Some insects create environments that regulate the temperature within their colony or nest. For example, on hot days honey bees will collect water and “spit” it in their hive, while other bees fan their wings to create an air current. This causes the water to evaporate and reduce the temperature in the hive. Termites also control the temperature in their nests by keeping it moist and underground, and some species even create vents to allow airflow. Some insects move in with us to live in our air-conditioned homes, although for most insects it is too dry indoors. Some ground-dwelling insects just go deeper where the temperature stays cooler and the soil is wet. Some insects are less active during the hottest hours and are more active in the morning and evening when it is cooler. And finally, many insects are not bothered by these hot temperatures as this is their “normal.”

Do you have questions for Dr. Bug? Send them to ReallT@Missouri.edu or bit.ly/KidsAskDrBug. Please include your name and age. To help me learn what you learn from this column, consider filling out this survey: bit.ly/KidsAskDrBugSurvey

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