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Bug Bonanza: 7 Big, Colorful Critters to Try to Spot This Monsoon Season

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Arizona is home to one of the most biologically diverse populations of insects in the country. The monsoon season is an especially active time for unique critters.

With the summer monsoons bringing much-needed rain to the Old Pueblo, calls and identification requests are pouring into the University of Arizona **Department of Entomology**.

"And that's not surprising," said **Gene Hall**, who oversees the **University of Arizona Insect Collection** and provides insect and other arthropod identifications as part of the **Cooperative Extension's Insect Diagnostics Clinic**. "This is one of the first summers in probably three years that we've had a lot of good rain, and that means our bugs are out in big numbers."

Arizona is home to one of the most biologically diverse populations of insects in the country, according to Hall. In the university's 2 million-specimen collection, more than 20,000 species are from the Sonoran Desert.

"We're just fortunate to live in this area where we've got all this diversity and insect species that call southern Arizona home," said Hall. "A lot of people make the pilgrimage here during the summertime to look for certain insects, like the Rhinoceros Beetle or the Jewel Beetle, that can be found in the Sky Islands around Tucson. It's like bird-watching, but with bugs."

Summers are a smorgasbord of insect activity in Arizona. Buzzing cicadas are a familiar sound leading up to the monsoon season. When rains arrive, beetles burrow out of the soil to mate, winged ants and termites swoon and swarm in their own nuptial flights, and a flurry of other critters look to feast on the party.

As the rains bring out the bugs, Hall encourages folks to enjoy the show.

"These insects and other arthropods are not out to get anybody. They're just doing their thing and we're the ones that kind of end up crossing their path," he said.

While some of the more common bugs such as cockroaches, mosquitos, harvester ants and scorpions may be out in bigger numbers with the increase in precipitation, Hall breaks down some of the more unique critters you might also see make an appearance this monsoon:



Figure 1. Fig beetle. Photo: Salvador Vitanza

Fig Beetles

This fig beetle (*Cotinus mutabilis*) (Figure 1) is one of the few species of scarab in the region that are active during the daytime. They are easy to distinguish from other scarabs with their green body and yellowish markings on the edge of their elytra (wing covers), along with the metallic green underside of their bodies. Fig beetle flight-wings are a dark smoky color and make a noticeable "buzzing" sound when the beetle flies overhead.

Adult fig beetles are attracted to fruits and plant fluorescence. To keep them from eating fruits on trees or cactus, people can bag the fruit on the plant. Fig beetle larva, a chunky white grub, lives in compost piles and other organically rich soils, and has a habit of being mobile while on its backside. Like all other beetles, it will eventually pupate and later emerge as the adult beetle.



Figure 2. Palo verde root borer beetle. Photo: Salvador Vitanza

Palo Verde Root Borer Beetles

Due to their large size, palo verde root borers (*Derobrachus hovorei*) (Figure 2) are one of the more noticeable insects during monsoon season, and they fly during the evening. The large grubs can take up to three years to develop underground, feeding on roots. They are frequently and erroneously blamed for killing palo verde trees. More than likely, the trees die or are damaged due to stress and other environmental factors. The gentle giant adult palo verde borers do not feed and only live for a few weeks – long enough to mate and continue the lineage of the species.



Figure 3. Adult female tarantula. Photo: Salvador Vitanza

Tarantulas

Monsoon season is generally the time of year when there is an increase in tarantula activity, and this is tied to the mating season, much as it is for other arthropods that make their appearance during the summer rains. The males wander, looking for females. It's usually easy to distinguish the sexes; males are "spindlier" with a small abdomen and slender legs, while females (Figure 3) are more robust, as they need abundant bodily resources to produce offspring. Like other spiders, tarantulas are predators that feed on other organisms, but there is no need to be concerned if you see one. If you get too close, the spider might try to defend itself by flicking off barbed hairs from its abdomen.



Figure 4. Giant mesquite bug.

Photo: Chip Hedgcock, courtesy of the University of Arizona Insect Collection

Giant Mesquite Bugs

Giant mesquite bugs (*Thasus neocalifornicus*) usually start appearing during the hottest time of summer, pre-monsoon, and continue to be present into monsoon season. These bugs occupy the canopy of mesquite trees where they use their piercing and sucking mouth to feed on the plant's juices. In their immature stage, wingless nymphs are a striking red color with creamy markings on the abdomen. Adults have fully developed wings and are dark grey to nearly black in color (Figure 4). When temperatures are too hot in the tree's canopy, giant mesquite bugs, both adults and nymphs, descend to the base of the tree where it is cooler, then retreat to the canopy when the day's heat tapers off.



Figure 5. Jewel beetle.

Photo: Chip Hedgcock, courtesy of the University of Arizona Insect Collection

Jewel Beetles

The common name of the jewel beetle (*Chrysina gloriosa*) is a good hint as to its appearance. The beetle is shiny green with metallic-looking stripes on its wing covers (Figure 5). Entomologists and nature enthusiasts make pilgrimages to Arizona to see these living gems. Jewel beetles occur in the higher elevation juniper-oak zone. Once erroneously proposed to be endangered, this beetle is abundant during the monsoon season. While the grubs can be found around decayed logs and tree stumps, the adults are juniper feeders.



Figure 6. Rhinoceros beetle. Photo: Salvador Vitanza

Rhinoceros Beetles

The rhinoceros beetle (*Dynastes granti*) (Figure 6) is one of the more charismatic insects in the region – another insect that nature lovers, local and abroad, hope to see during monsoon season. Rhinoceros beetles are among the largest and heaviest beetles in the region, rivaled only by palo verde root borers. As the name implies, males have a horn-like structure that extends from the top of the thorax well beyond the beetle's head. This is met by a smaller horn projecting from the top of the beetle's head, thus resembling a rhinoceros. Females lack these horns, so it is assumed the structures are useful during the mating season, when males are competing for females. Like the jewel beetles, they are more common in higher elevations than the low desert.



Figure 7. Desert millipedes can grow to nearly half-a-foot in length.
Photo: Salvador Vitanza, US Fish and Wildlife Service

Desert Millipedes

The desert millipede (*Orthoporus ornatus*) is easily recognized by its gentle nature and long, cylindrical, reddish-brown body that can reach nearly half-a-foot in length. The majority of the body segments possess two pairs of walking legs as opposed to other arthropods that have one pair per segment. While harmless, they will curl up as a defensive mechanism and exude a foul-smelling dark liquid substance that can potentially irritate human skin. Millipedes can be seen wandering the desert during monsoon season, especially after a rainstorm. They are scavengers, mostly feeding on decayed plants and other organic substances.

How to deal with indoor mosquitoes

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The water bodies left by the monsoons produce large populations of mosquitoes, and many efforts are focused on reducing breeding habitats outdoors. Invariably at some

point one sneaks inside our home. Often our first indication of the home invasion is being woken up in the wee hours by the high-pitched whine of the female's wings beating as she locates us while we sleep to take a blood-meal. Once indoors and well fed, there are a plethora of opportunities for mosquitoes to lay eggs that often go unnoticed. If you suddenly find several mosquitoes inside your home this may be an indication of mosquitoes emerging from a water holding vessel somewhere inside your home. Here are some ways you can get rid of mosquitoes inside your homes and buildings.

1. Prevent mosquitoes from entering.

- Install or repair and use window and door screens.
- Do not leave doors propped open. Use air conditioning when possible.

2. Don't provide breeding sites.

- Remove regularly or frequently change standing water in items such as plant saucers, flower vases, potted plants, lucky bamboo containers and pet bowls.
- Flush rarely used toilets and run rarely used sinks, bathtubs and showers.
- Check that sink overflows are not blocked and holding water.
- Check and drain water pooling in condensate pans associated with AC units and swamp cooler systems.

3. Prevent mosquito bites.

If you are plagued with indoor mosquitoes protect young children and yourself using mosquito netting (Figure 8).



Figure 8. A sleeping infant protected using mosquito netting.

4. Trap and kill indoor mosquitoes.

- Several devices are available that can be used indoors to kill flying adults. Some of these include battery operated zappers, or electronic traps (Figure 9).

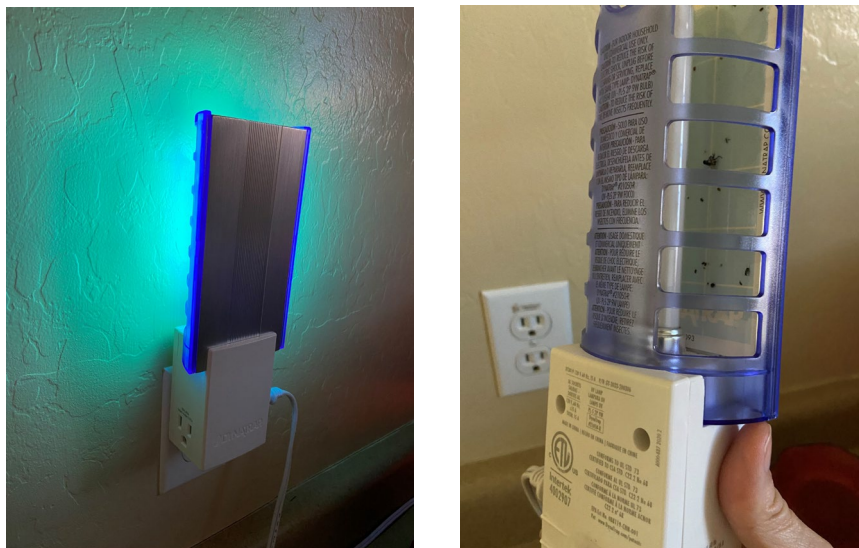


Figure 9. Indoor plug-in light traps.

Check out simple, reader-friendly resources from the Centers for Disease Control and Prevention, for controlling mosquitoes at home:

<https://www.cdc.gov/zika/prevention/controlling-mosquitoes-at-home.html>

Important Announcement

“Is your school district using the pesticide *W.O.W Whack Out Weeds!* or other EcoMIGHT-Pro pesticides? If so, please read the following message for important information:

The California Department of Pesticide Regulation (DPR) issued a notice to EcoMIGHT-Pro, LLC, that it may be in violation of state law by manufacturing, delivering or selling unregistered pesticide products in California. EcoMIGHT currently markets its products as “organic,” “natural,” “glyphosate-free,” and “non-toxic and safe.” However, state laboratory analyses of *W.O.W. Whack Out Weeds!* and EcoMIGHT-Pro products sold in California found that the products tested contain potentially hazardous chemicals including glyphosate, bifenthrin, permethrin, cypermethrin, and carbaryl.

If your school district uses *W.O.W Whack Out Weeds!* or other EcoMIGHT-Pro pesticides, please discontinue use immediately.”

For more information, you can read DPR’s press release [here](#).

What the Heck was This!



Answer: Giant Mesquite Bug

What the Heck is This?



If you know what these are email the answer to Dawn at dhgouge@email.arizona.edu. You will not win anything if you are correct, but you will be listed as a “Proficient Pest Detective” in the next newsletter issue.

Ongoing and Upcoming Events

Vector Preparedness Virtual Workshop

Open now for on-demand CEs. To register contact Dr. Lucy Li
lucyli@email.arizona.edu

The Vector Preparedness Virtual Workshop is a great opportunity for anyone with an interest in learning information on mosquito ID, surveillance, management, and insecticide resistance in public health pests.

Arizona certified structural pesticide applicators can earn **4 CEUs** from the AZ Department of Agriculture's Pest Management Division (PMD) after completing the entire workshop. This course will be effective through August 30, 2021.

Check out upcoming Integrated Pest Management Webinars at <https://www.epa.gov/managing-pests-schools/upcoming-integrated-pest-management-webinars>. For more information about the EPA Schools program: <http://www.epa.gov/schools/>.

New online webinar: Strategies for Housekeeping & Maintenance Professionals Working in Healthcare Facilities https://www.youtube.com/watch?v=tcgwZL2Ch_s

To view all our previous newsletters, visit: <https://acis.cals.arizona.edu/community-ipm/home-and-school-ipm-newsletters>.

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