

IN THIS
ISSUE:

Monsoon Swoon



It's monsoon season in Arizona... For humans that means rain, wind, and lots of dust. But for many insects and other arthropods, this is a time of life-giving water and reproduction. Here is a quick synopsis of just a few amazing critters who are called to action by the features of this season.

Palo Verde Root Borer beetle... It's a bird... It's a plane... No, it's a Palo Verde Root Borer beetle! If you live in the Sonoran desert for any period of time, you'll likely encounter this beetle. It is found throughout the major metropolitan areas of Tucson and Phoenix, as well as from Texas to southern California and northern Mexico. The larvae are an impressive 4-5 inches long, and take up to three years to mature; however, you're not likely to see the larvae unless you dig up a host tree on whose roots they are feeding.

Following metamorphosis in the soil, adult beetles emerge and dig their way out around late June. Adults measure slightly shorter than the larvae at 3½ inches long. They are attracted to urban lights in the early evening hours and their dark, large forms can be seen flying around lights or resting on walls nearby. Their body is somewhat flat and elongated such that sometimes they are mistaken for American cockroaches.

Before the monsoon season ends, mated females will return to their emergence holes or dig new ones and lay their eggs. Although the damage to trees from larvae feeding is typically insignificant, you can discourage the female beetles from ovipositing (egg-laying) by placing wire mesh at the base of susceptible trees and shrubs, the most common of which include: Mexican palo verde, elm, olive, rose, and privet. Properly watering and fertilizing susceptible vegetation will keep it healthy and minimize damage from larvae.



Adult Palo Verde Root Borer beetle

Minimizing outside lights may help to discourage visits from adults. They may bite if handled improperly, but otherwise pose no threat. These large, amazing beetles emerge for only a short time. Watch them... and enjoy!

Crickets... During July and August, you're likely to see and hear a lot of cricket activity indoors and outside!

Indian House crickets are light tan with darker patterning. They are typically seen in and around homes throughout the year, particularly in kitchens and pantries where they forage for crumbs. Their close cousin, the Field cricket, is comparatively larger, very dark in color, and lacks patterning. Field crickets tend to be more common outdoors in rural environments and are not usually an indoor pest. During monsoon season, however, Field cricket numbers increase and the weather tends to usher them indoors temporarily.



Indian House cricket (left) and Field cricket (right)

You can reduce Indian House cricket sightings indoors with good pest prevention habits: keep kitchen floors (especially corners), countertops, and shelving clean. Indoor clutter is also an attractant. It provides housing and food via accumulated food crumbs and food-based art projects...even glues and paper are attractive munching material. Try snap-tight containers for supply storage. Insect monitoring traps also help indicate pest activity and the need for pest prevention.

To minimize Field cricket activity outdoors around structures, remove un-kept vegetation and minimize night-time outdoor lighting. This will discourage "insect loitering" near doorways. You may also replace traditional white bulbs for yellow "bug" bulbs, which attract fewer insects overall. Reduce opportunities for Field crickets to migrate indoors during the monsoon season by keeping the weather-stripping around doors and/or door sweeps in good repair.

*Insect monitoring traps ("sticky traps")
are part of any IPM program.
They help identify pest activity inside
as well as round up occasional invaders.*

Swarms following rains... The winged, reproductive form of ants and termites is called an “**alate**”, and at this time of year **alates** tend to congregate for mating following precipitation. Harvester ants (*Pogonomyrmex* sp.) and Subterranean termites (*Heterotermes* sp.) may swarm after mild rains. After torrential rains (≥ 1 ” downpour) Leaf Cutter ants (*Acromyrmex* sp.) may swarm. Some termites (*Gnathamitermes* sp.) swarm in the afternoon during misty rains, also. Phew! Get all that? Bottom line is, with monsoon precipitation there’s swarming overhead.



Harvester ant **alates** may pick out a high point in the landscape to swarm over (such as a building). Termite **alate** activity may be most noticeable in backyard pools, where dropped wings may collect and float in large numbers. Swarms of both insects often go unnoticed and pose no threat to humans. Occasionally, dead individuals may collect around structures or fall into chimneys. Tight-fitting window and door screens and a fine wire mesh screen

installed over the chimney could help minimize this.

Red Velvet mites... Are making their annual return. These benign arthropods are among the largest North American mites (comparable to the size of a raisin). We have several southwestern U.S. species from the family Trombidiidae. Aside from their outstanding size, these mites are also characterized by a bright red “velvet” look that is attributable to a covering of fine, red hairs. The adults spend most of the year underground and make a rare appearance during the summer monsoon season. Their emergence from the soil is perfectly timed to exploit their number one food source: **alate** termites.

Adult Red Velvet mites may be red, or red with a small amount of white. During their brief visit above ground, the adult mites busily feed, mate, and lay their eggs. While it is thought that adults return to their sub-surface environment (as opposed to dying) at the end of monsoon season, the larvae remain above ground and become parasites of grasshoppers. After feeding sufficiently on their grasshopper host, the larva drops to the soil and undergoes various stages of growth and development.

Overall, these 8-legged arthropods are one of “the good guys” in helping to control insect numbers, and they pose *no* biting or stinging threat to humans. If you’re lucky enough to see Red Velvet mite adults this monsoon season, enjoy their brilliant beauty and take comfort in knowing they’re doing us all a favor.



Red Velvet mite adult
(Photo by Doris Evans)

Male Tarantulas... Are on the move! Most of the year, tarantulas live in burrows and are rarely seen. But monsoon season beckons males out of their hideaways to actively seek females – still in their burrows – for mating. Males can reach a length of up to 2 ½ inches, while females may be up to 4 inches long.



Tarantula with water droplets after a thunderstorm (Photo by Bill Shaw, UA)

There are at least 30 species of tarantula in Arizona. Males take several years to mature and die after mating. Females, however, reproduce multiple times and may live for as long as 20 years! All of Arizona’s tarantula species are nocturnal, secretive creatures. If encountered walking through the desert, they will likely take no notice of you and continue about their business if undisturbed. But when threatened, they may rub their abdomen with their back legs, emitting a cloud of fine hairs that act as irritants to the eyes, lungs, and other mucous membranes. If handled and provoked, they may even bite (though their venom is usually harmless to humans).

Due to this season-inspired wandering behavior, tarantulas may become trapped in basement window sills below ground level, get caught inside garages, and encounter other structures that are difficult to crawl out of. They can often be gently removed from urban structures with a dustpan and a large piece of Tupperware. When released in an appropriate environment outdoors, they will help to control other arthropods, mice, lizards, and snakes.

Potter wasps... The artists of the insect world! Their pots are even thought to have been the inspiration behind some Native American pot designs.

The female wasp constructs small clay pots (about the size of a thumbnail) on any number of plant stems or leaf types. She stocks each pot with a hairless larva on which she lays a single egg, and then seals the chamber up. Her work is done! When the young wasp hatches (as a larva), it has food and a protected “home” in which to complete its development. Within two weeks, the young wasp will mature into an adult and be ready to cut its way out of the

clay pot, leaving an exit hole in the side (as shown). Because they are solitary, and thus have no hive to protect, Potter wasps are not considered a stinging threat to humans.

Adult Potter wasps are nectar-feeders, but beyond that not much is known about their ecology or potential importance as pollinators. The pots they construct do not incur damage to the plant, which serves merely as a support substrate.



Potter wasp chamber on asparagus fern (Photo by J. Snyder)

These wasps are well adapted to urban environments, and you may find their lovely clay pots – a treasure to behold – on a variety of patio or garden plants.

Centipedes... are also known as “Cien Pies”, which means “hundred feet” in Spanish. Centipedes have nowhere near a hundred feet, however. The young are smaller versions of the adults, and as they grow they gain new body segments. Each new segment includes a new pair of legs (concluding with 21 pairs of legs for full grown adults). Centipedes carry their legs perpendicular to their body, and the body itself is fairly flattened (versus the millipede, which has *two* pairs of legs per segment, holds legs more underneath, and has a rounded body). The southwestern U.S. has the largest centipedes in North America: the Giant Desert centipede and the Common Desert centipede.

The Giant Desert centipede (*Scolopendra heros*) occurs throughout the southern United States, but the southwest variant is the largest. It typically reaches 6-8 inches in length, but may grow up to a foot in length if kept well fed in captivity. This incredible creature has an orange body, a black head and the last several segments of the abdomen are also black. The antennae are orange and the posterior segment sports orange antennae-like appendages, giving the effect of having two heads...handy for escape from predators or attacking prey.

The Common Desert centipede (*Scolopendra polymorpha*) is slightly smaller in length at only 4-5 inches. Its coloration, somewhat opposite its larger cousin, includes an orange head and tail, and a dark body. Dark, lateral bands further adorn each body segment, giving the Common Desert centipede a distinct appearance. No wonder they also call it the “tiger centipede”!



Giant Desert centipede (left) and Common Desert centipede (right) with young

Unlike most other arthropods, centipedes do not have a waxy cuticle layer in their exoskeleton. Consequently, they are particularly prone to drying out (desiccating) and will seek dark, moist areas for hiding (under large rocks, bricks, and boards, in holes, etc.). If you happen to remove their cover, they will scurry away... This escape route may be in your direction, but that is coincident with shelter in your direction. The centipede is not attacking you.

Both our centipedes are strictly nocturnal predators, hunting anything from other arthropods to lizards and even small rodents. While centipedes do have venom, their toxins do not typically pose a threat to adult humans; however, the bite they deliver is guaranteed to hurt and is hazardous to children! Be careful in removing these fast crawling critters from structures by wearing gloves and using a broom and a container for release into more appropriate habitat.

Fig Beetles... Are the jewels of monsoon season. These beautiful, thick-bodied beetles are an insect version of a grazing cow. As recyclers of nature’s plant materials, Fig beetles favor soft fruit (figs, peaches, etc.) and sap. Adults may be found in clusters on fruit or at a tree weep during daytime hours. The white larvae are common in compost piles where they play a helpful role in breaking down detritus.



Fig beetle on fruit Photo by Alex Wild, myrmecos.net

Fig beetles reach up to 2 inches long, and can be easily identified by their iridescent green exoskeleton and a narrow yellow margin along the base of both sides. Fig Beetle adults are common during Arizona’s monsoon season (July to September).

Information sources:

1. Carl Olson. Fifty Common Insects of the Southwest. Western National Parks Association, 2004. 50 pgs.
2. University of Arizona Urban IPM website: <http://ag.arizona.edu/urbanipm/index.html>
3. Dr. Cal Welbourn, Acarologist. Florida Department of Agriculture and Consumer Services.
4. A Natural History of the Sonoran Desert. Arizona-Sonora Desert Museum Press, Tucson. 2000. 628 pgs.
5. Arizona Game & Fish website: Invertebrate Abstracts, Distribution Maps & Illustrations. http://www.azgfd.gov/w_c/edits/hdms_abstracts_invertebrates.shtml
6. Alex Wild, <http://www.myrmecos.net/ants.html>.

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Few bugs are bad! More than 95% of all insect species are beneficial to humans