You might know them better by their other names: sow bugs, wood lice, pill bugs, doodlebugs or roly-polys but you won’t find them in insect books. Yes, they do look like armadillos and even roll up like them, but really, they are actually crustaceans, more closely related to shrimp and lobsters than beetles and grasshoppers. So can you eat them like shrimp? Well yes, but they are horrible to peel unless you catch the aquatic species; Bathynomus which is over two feet long. They also don’t turn an attractive pink when cooked, more an unattractive brown color. So feel free to forage but it will take a long time to peel enough for even a snack. The flavor, well, it is described as tasting of strong urine.

Conglobation is the term used to describe the ability to form their bodies into a ball shape…..just in case someone asks.

The bugs we find in our yard are real travelers and the species we see probably originally came from Europe. The ones found in the eastern part of the US likely come from Britain and Northern Europe while the ones found in the Southwest are more similar to those found in Southern Europe. It is thought that the bugs piggybacked with the first European settlers to North America. In the west those first explorers were from Spain while the east coast settlers came from Britain. They were probably stowaways in the rock ballast used to stabilize the wooden sailing ships. (An interesting sidenote is that cats follow this same pattern, southwestern cats have different coat genes from those in the East)

Pill bugs fight a constant battle against drying out. This is why you find them under rocks, boards, anyplace that retains moisture. They move around at night; don’t expect to see them wandering down the sidewalk on a sunny day. They even have a modified gill that can extract oxygen from water and some species also have a supplemental tube system for breathing in air. One of the methods they use to stay hydrated is a little off-putting for humans in that they drink from their rear ends. Sow bugs sit on a wet spot and press together two pointy-tail-end pieces called uropods that they use to make a tube that can wick water into their bodies.

You can keep them as pet; they can live two to three years

Armadillos in Your Yard The Family Armadillidiidae by Nora Graf
and have a fondness for almonds.

If you have them in your yard you will have noticed the shell-like exoskeleton, which they periodically need to molt so they can continue growing. It’s a two-step process with back end molting first, followed by the front end. Male pill bugs will guard females during molting because it gives them the first opportunity to mate. Females can reproduce without males, parthenogenetically producing daughter clones. They only need to mate with males to produce sons. The females keep fertilized eggs in a marsupium on the underside of the body until the eggs hatch. The offspring are small and white.

There is a bacterium that can have a feminizing effect on males, which allows the “males” to function as females.

Another interesting behavior is they will sometimes eat their feces. It is thought that it is a way to extract more nutrients from their food, especially copper. Like Mr. Spock they have a copper-based blood although it is blue vs green like Spock. (We are iron-based.) In fact they are known for their hoarding of heavy metals like nickel, zinc and cadmium and have been used to monitor pollution in Europe.

A pillbug infected with an iridovirus will turn blue. Pillbugs don’t urinate, they pass ammonia gas directly through their exoskeleton.

Now the question is do they cause damage in your garden. Yes, seedlings are a food source, especially if they have already been damaged by other pests. They seem to have a fondness for fruits like strawberries and tomatoes that are in contact with the ground. On the whole they are very effective decomposers and add value to your garden. In terms of their ability to improve your garden they are on par with earthworms. They can even help in controlling stink bugs, apparently they are fond of the eggs of the insect.

Since most people have little tolerance for any insect-like creature, the best way to control them is to restrict moisture. If you keep the area around your house dry chances are you won’t find them in your house. Keep things like stacked wood away from the house on a concrete pad. Shake off wood before bringing in the house. Seal door thresholds to prevent them from coming in. Without moisture and the food they like (decaying vegetation) they won’t become a pest in the house.
jagged rocks through the familiar canopy of trees. A dead tree fleetingly caught my attention before I realized it had died from natural causes. When I was at the entrance to the park I could see the first real sign of the fire, on the mountains further north. On the far north end of the park that is not hidden from the road, large, charred logs and blackened rocks brought tears. And then I was back in the familiar canopy of trees and shrubs and could only see a glimpse of the fire area.

Butterfly Garden Inn and Junipine Lodge and Restaurant are favorite places of mine to stop and eat. With the reports that no structures were burned, I had expected to see them. I was not prepared to see that there was no major sign of the fire from their parking lots. Almost to the switch backs, as far up 89A as cars are allowed, the most prevalent sign that there had been a fire were the signs thanking the fire fighters and the lack of cars on the road and in the parking lots of the businesses throughout the canyon.

The fire fighters did a wonderful job of keeping every structure in the canyon safe. They were aided by years of work thinning the undergrowth and clearing out debris in the forest. According to U.S. Forest Service officials, most structures within the canyon have a 200-foot buffer, thanks to the efforts of the Sedona Fire Department, the Forest Service and property owners. A good reminder to all Master Gardeners is to recommend having defensible space around any structure.

Highway 89A through Oak Creek Canyon is still magnificent. If you are looking for signs of the fire you can see them - through the trees, up the sides of the mountains and along the ridge lines. In most places and in the right light, it almost looks like shadows against the towers of white cliffs.

The bottom line is go see it for yourself. And while you are there, stop in at one of the markets, gift shops, have lunch or spend the night at one of the hotels. Along with thanking the fire fighters the business owners would appreciate you for your business. And, most importantly, spread the word that Oak Creek Canyon is still worth the drive – from anywhere.

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**Office Rehab**

Master Gardeners Bob Borok and Ken O’Finan took on the project of improving the landscape at the Prescott Extension office. They worked on moving plants out of leaking barrels and into new planters.

Work started on May 26th and was finished in time for the rodeo the first part of July. Bob and Ken worked on the planting and Ken re-did the drip system and attached the lids to the front of the cans. The Extension staff created the “logos” for each Extension program and Ken attached them to the lids.
Our Monsoon Madness Plant and Yard Sale is the biggest volunteer event of the year for the Master Gardener Association of Yavapai County. It is also the major fundraiser. Funds are used on various community outreach programs including continuing education for the numerous community gardens, school programs, plant database maintenance, Farmers' Market information sheets, speaker honoraria and other education-based gardening programs.

This year revenue was down about $1000 from past years. It wasn't because of the lack of customers, but because we didn't have the merchandise. The bulk of the plant merchandise comes from Master Gardeners. What kind of Master Gardener growers take the time to produce something for the sale?

Chronologically first are the Seed Starters - a very select group of risk-takers. Seed Starters begin in mid-February by starting their perennial seeds, knowing that to be of saleable size in July it takes upwards of 5 months... and a little bit of luck.

The Cutting folks or "stick-a-stick in the ground" gang similarly start thinking about Monsoon Madness in January/February. Then the De-clumpers take action. They divide plants in their gardens that grow in clumps. These gardeners can wait a little longer, perhaps early April when the weather warms and things start to grow. Many say this is the most full-proof (easy) method of propagation. Those that harvest seedlings would probably disagree, Propagation by Volunteers is a practical, attractive method of multiplying. How many volunteer Desert Willows pop up in your yard every spring? Pot them up, nurture them, and bring them to Monsoon. They will disappear quickly.

The "I Like Annuals" folks can wait and wait until April/May to plant seeds for those gorgeous looking (and smelling) pots of Italian Basil that quickly disappear every year.

On a parallel course are various committees that steer Monsoon from March through July. The committees meet once a month to plan and share ideas to make the operation ever more efficient. After last year's mid-sale downpour, there was talk of having a Clear Weather Committee. It didn't happen, but the spirit was there...and it didn't rain this year.

Ideas are germinating on how to produce more plant merchandise. What to do? More Propagation Workshops? Surrogate Growers where plants are started en mass then turned over to other MGs to bring to market? Have growing teams-maybe with T-shirts? Do a Plant Exchange? How about a contest or two?

Lots of ideas. However we do not want to lose sight of the secondary benefit of the sale: Monsoon Madness brings the membership together in a shared experience... one of the wonderful basics of a volunteer organization.

What kind of grower might you be for Monsoon Madness 2015?
Master Gardeners Strategically Planted In Garden Tour

by Steve McIntyre

The popular biennial Alta Vista Prescott Garden Tour was held this year on Saturday, June 14, and included a number of Master Gardeners who are both homeowners and educators. Three of the five homes featured on the tour this year belonged to our very own Yavapai County Master Gardeners Suzette Russi, Pam Bowman and Sue Smith. They opened their extraordinary gardens to the seemingly endless lines of the viewing public. Tickets sales were limited to 700, much to the applause of neighbors dealing with the street parking... but heck, it’s only once every two years.

Each garden was given a theme in the tour booklet. Pam chose “Go Native,” Sue came up with “Perennials Gone Wild,” and Suzette went cute with “For the Birds.” The themes were as diverse as the homeowners locations. The author logged nearly 20 miles traveling from home to home. Sue and Suzette tucked their gardens behind their homes in two-car garage neighborhoods while Pam was way out east in the hills off Old Black Canyon Highway.

As educators, MG’s were on hand to answer general gardening questions as well as specific questions about their respective tour gardens. Without a computer at their fingertips, some educators might have been a little anxious. Suzette relieved some of this angst by broadly posting signs throughout her garden identifying plants. She did not have to identify, however, the life-size mountain lion calmly lounging atop her back fence.
This garden was built on a balcony.
Arizona Highlands Garden Conference

Register now for our Oct 25th conference and Oct 24th pre-conference activities. Conference information and registration form available at www.ahgc2014.org, or visit either Extension office, or call Pam Denney at 928-445-6590 ext 221. The public is invited. Advance registration required.

FROM THE EDITOR: Please send or email articles and announcements to the address below. All articles must be in my hands by the 10th of the month. Short announcements (no more than 2 or 3 lines) will be accepted until the 25th.

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Next Meeting
Camp Verde, August 20, 6:30pm
“It’s All About Photosynthesis!”
Chris Bernau, Rangeland Research Specialist for the University of Arizona will be speaking.
What impact does CO2 have on plant growth? Come find out.

The meeting site is in the Superior Court Building off of Hwy 260 in Camp Verde.
2840 N. Commonwealth Dr.