



The Virtual Gardener—Rabies in Arizona

The Arizona Department of Health Services (ADHS) recently released some alarming statistics about the number of animals that tested positive for rabies in the state last year—280, the largest number on record. This was up by 59 percent from the 176 reported in 2008. In Cochise County the jump was from 12 cases in 2008 to 39 cases in 2009—a 225 percent increase.

Over the past decade the numbers have gone up and down but generally increased, possibly reflecting the increased human population of the state, the number of wild animal traps deployed, and other factors as well as the number of animals actually infected. Annual statistics are available on the ADHS website (http://tiny.cc/ADHS_rabies) for the years from 1999 to 2009.

According to the ADHS more than 90 percent of the cases of rabies occur in wild animals, especially bats, skunks, and foxes. Rodents such as rats, mice, and squirrels are less likely to become infected. Among domesticated animals, cats, cattle, and dogs are the ones most often reported with rabies. The good news is that the last reported case of rabies in a human in Arizona was in 1981.

The increase in rabies cases could not come at a worse time for Arizona.

Because of budget cuts, the ADHS laboratories in Tucson and Flagstaff have been closed, throwing an extra burden on the Arizona State Health Laboratory in Phoenix, the only remaining lab in the state that does rabies testing. To make matters even worse, the State Public Health Veterinarian left in June 2009 to take a position in Colorado leaving an important vacancy in the state rabies response team which will not be filled. As a result, new policies for testing have been instituted. Even when people are bitten, pets will not be tested unless they exhibit clear symptoms of rabies or there are other special circumstances. Wild animals will not be tested unless there has been an exposure of humans, pets, or livestock (see http://tiny.cc/submissions_policy for details).

Given the increase in the number of rabid animals identified in Cochise County, our risk of becoming infected is greater. So what should we as gardeners and others who spend time out of doors know about rabies?

The first thing to know is that some rabies symptoms may be extremely slow to appear after exposure, but once neurological symptoms have appeared

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the disease is almost always fatal—only three people are known to have survived from this stage of the disease. For this reason every exposure must be taken seriously and immediate medical attention sought. Treatment with rabies vaccine is almost always successful if started within ten days of exposure.

Most of us know enough to avoid handling wild animals at all and to distance ourselves from any animal exhibiting unusual behavior. Most infected animals go through three stages of the disease. In the first (*prodromal*) stage there are often major behavioral changes such as a shy animal becoming friendly, an aggressive animal becoming shy, or a normally nocturnal animal such as a skunk appearing in daylight. Wild animals that appear to be very friendly or tame should be regarded with suspicion and contact with them avoided. In the second, (*furious*) stage infected animals may become vicious and attack without provocation. And finally in the third and last (*paralytic*) stage, they may lose control of limbs, have difficulty breathing, and salivate excessively. Death usually follows rapidly due to respiratory failure.

Exposure to rabies from bats is often not so easily detected. Many people who have contracted the disease after being bitten by a rabid bat were unaware of being bitten because of the small size of the wound. Any physical contact with a bat should be taken seriously. Even the presence of a bat in a room with an infant is considered to be presumptive evidence of exposure to rabies.

Infection occurs when the

saliva of an infected animal gets into a wound (usually from a bite) but infection can also result from the saliva getting into the eyes, nose, or mouth. If infection of a human is suspected you should:

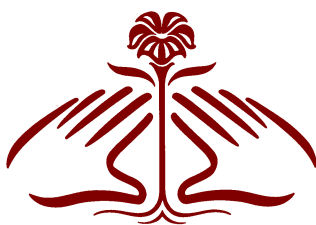
- ◆ Immediately wash the wound with soap and water.
- ◆ Try to capture the animal if that is possible without risking further wounds but take care not to damage the head.
- ◆ Notify animal control. If the animal is a pet it will be quarantined for observation. If it was a wild animal, it will be presumed to have been rabid until testing proves otherwise.
- ◆ Notify the local health department and see a doctor for further instructions.

If your pet has been bitten, consult your veterinarian and notify local animal control immediately.

If you are interested in learning more, check out these websites: American Veterinary Medical Association—<http://tiny.cc/avma>
National Institutes of Health—http://tiny.cc/nih_rabies
World Health Organization—http://tiny.cc/who_rabies
Center for Disease Control Advice for Travelers—http://tiny.cc/CDC_rabies

Until next time, happy surfing.

Gary A. Gruenhagen, Master Gardener
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In a Desert Garden

Oxalis

Sorrel—Shamrocks

Lately, I have been writing about the little guys growing in my yard and I have chosen another species I really like. This one is not a desert dweller and it might surprise you to find it in my yard.

I grow roses in my memorial garden, and yes, roses require water, but not as much as one may think. Most gardeners pamper their roses and tend to over water them. My roses have learned to restrain themselves and maybe at times when it is very hot and dry they don't flower as well, but they get very nice water—water I collect from my roof when it rains. In this memorial garden, under my roses I grow a variety of ground-covers that share this water. Between the violets you find *Oxalis* in different colors. I am always on the lookout for a different variety. Most of them I have found in the flower sections of supermarkets or big box stores in spring for St.

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March Reminders

- ◆ Prune roses
- ◆ Start seeds indoors
- ◆ Check cactus for fungus
- ◆ Plant cool-season veggies
- ◆ Reconsider your water usage (Call Water Wise for a free audit—458-8278, Ext 2139)
- ◆ Remove and replace winter mulches

Gophers: You CAN Get Satisfaction!

One day, you look out on your lawn and spot several small fan-shaped mounds of freshly dug dirt. Drat! Gophers have been at work. These nasty varmints can ruin a lawn or vegetable patch in no time. Aside from the esthetic damage, gophers can kill small trees by gnawing on their roots and they can do lots of damage to a vegetable patch, devouring potatoes, carrots, and the like. They even destroy whole plants. I've talked to folks who have watched entire plants get pulled underground by gophers. One minute, you've got a plant, next minute, it's gone! Fortunately, the Rolling Stones were wrong; there is a way to get satisfaction: trap the little buggers!



Gophers, aka pocket gophers, are small, chunky rodents, about six inches long (minus their tail). They are brownish in color, with long, orange front teeth—kinda ugly. Both teeth and claws are used for digging. Interestingly, the gopher's lips actually close behind the teeth so that the gopher doesn't end up eating dirt while digging. The teeth, which wear heavily under constant use, grow continuously; one source claims they grow as much as 14 inches a year. Gophers live underground in tunnel systems that they dig themselves. Except during mating season, they are solitary, so each tunnel system usually has but one gopher. They are rarely seen outside of their tunnels, although we

watched a Great Horned Owl grab one in our back yard at twilight about a month ago. That's satisfaction!

The best way I've found to get rid of these destructive pests is to trap them using simple wire frame traps that snap around the gopher's body, breaking its spine. The traps cost less than \$10 and are available in any hardware store. You'll need two traps per gopher tunnel system. Poisons are also available, but you're never really positive if the gophers are gone or not, plus you can't be sure that some other creature, maybe an owl or a hawk, doesn't end up getting poisoned as well. With a trap, you know for sure that you've gotten the gopher and there's no danger to other critters.

To catch gophers, first you must excavate their tunnel. Start by poking around the freshest dirt mounds with a three foot length of steel rod or wooden dowel. Poke between mounds of dirt, not on the outside of the "last" mound in a series. The tunnels are usually less than a foot deep and you'll know that you've hit one with your rod when the rod meets with no resistance as you push into the tunnel. Once the tunnel is located, dig down with a shovel, watching for the gopher's tunnel itself to appear on either side of the hole you are digging. There's no need to dig any deeper than the bottom of the tunnel.

With gloves on—you don't want to be bitten—enlarge each tunnel opening so it's just big enough in diameter to accommodate the trap easily. Attach a three foot length of twine to the frame of each trap. Carefully set

a trap and insert it into one tunnel; repeat with the other trap in the other tunnel. Be sure and orient the traps with the "trip door" facing outward, toward the hole you just dug. Secure the twine from each trap to a stick or rod driven into the ground beside the hole so that a partially caught gopher can't run away with the trap. Cover the hole you dug with a piece of board or cardboard to block all light as gophers will often abandon a tunnel with light. Cover the edges of the board with loose dirt to seal it well.

Check your traps each day. Be careful of accidentally grabbing an un-sprung trap and inadvertently injuring yourself—use gloves. If you've not caught a gopher within a couple of days, move the traps to a different location as you've most likely placed them in an inactive section of tunnel. When you do catch a gopher, use gloves to remove it from the trap, throw the dead gopher in the garbage (more satisfaction!) and move the traps to the next set of mounds. Repeat until you've eradicated all of the gophers. My experience has been that the gophers show up in January and February and, once you've gotten rid of those that recently moved onto your property, you probably won't see any more until the next winter. Good luck and happy trapping!

Bill Schulze, Master Gardener

Robert E. Call

Robert E. Call
Area Horticulture Agent
Carolyn Gruenhagen
Editor

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Patrick's Day. The shamrocks are a darling little plant. They form nice small mounds and their flowers are just lovely. I grow white ones, of course, but I also have different shades of pinks. The shamrocks take off when the violets stop. They are happy with the water my roses receive and only look wilted on the hottest days. They recover quickly when the day is over and absolutely thrive with the rainy season. Every time the weather cools off they start blooming again. Unfortunately, I lost two plants this winter to the curve-billed thrashers as they did a number digging up plants. I have four of these birds in my yard and this winter they were very active. These two plants were pink and bloomed nicely all through the winter. When I noticed the tubers were lying on top of the soil I replanted them, but so far have not seen any growth. Well, I have a wildlife garden and the critters are King. I will find new plants.

There are *Oxalis* varieties native to most countries in the world. Most of them come from more temperate regions, but there are *Oxalis* native to Arizona. A little yellow variety that we consider a weed grows here, I think it is charming. *Oxalis* has leaves that look like clover and flowers are white, different shades of pink and yellow, and leaves that are green to purple. There are about eight hundred species in the genus of *Oxalis*. The bulbous or tuberous underground stems allow the plant to be dormant if the situation is not favorable, mostly in a drought. There are also varieties with edible tubers known as "oca." They are found in South America.

Angel Rutherford, Master Gardener

Cuttings 'N' Clippings

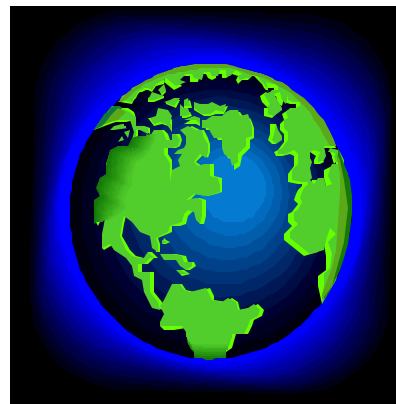
* The next CCMGA meeting is 5:00 p.m. Thursday, **March 4** at the University of Arizona South Campus Public Meeting Room. Mark Apel will be the speaker for this meeting. His talk is entitled, *Sustainability—What Does it Really Mean? From the Global to the Local Perspective*.

As "green" awareness begins to expand in all areas of our lives—from consumerism and energy independence to land use and development, the term sustainability crops up everywhere. Sustainable development is defined by the US Environmental Protection Agency as "meeting the needs of the present without compromising the ability of future generations to meet their own needs." But what does this really mean to us as consumers and citizens? Is it just a buzzword that will pass like any other fad? Or will it become the new, accepted standard by which we measure everything we do that has the potential to impact our planet? This presentation will explore the many ways that the standard of sustainability is being applied and expand our understanding of the tangible results we hope to achieve through its application.

Mark Apel is an Area Associate Extension Agent in Community Resource Development in southern Arizona and has over twenty years of environmental and planning experience having worked as a Peace Corps Volunteer in Morocco, for the National Park

Service, the Nature Conservancy, as a private consultant and as a county planner. He holds a B.S. in Environmental Resource Management (Pennsylvania State University, 1982) and an M.A. in International Affairs with an emphasis in African Studies (Ohio University, 1986).

* On **March 6**, 9:00—11:00 a.m. *Drip Irrigation for Homeowners* will be the free Water Wise presentation at the University of Arizona South Public Meeting Room. Drip irrigation systems are water-savers but only if they are used correctly. This workshop will cover water/soil relationships, identify the components of a drip system, and have a hands-on session. The presenter will be Steve Poe, UA Extension Specialist.



* On Saturday, **April 17** the Cochise Master Gardeners will be participating in Sierra Vista's Earth Day celebration at the Farmers Market located on the NW corner of Carmichael and Wilcox. The event runs from 9:00 a.m. to 3:00 p.m. Stop by with a question, for information, or just to say "Hi!"

The Agent's Observations

Q I would like to grow potatoes. Will they grow in our area? When should potatoes be planted? I understand that potatoes can be grown using tires. How is that done?

A Potatoes grow well in the High Desert of Southern Arizona. Obtain potato seed, which is cut up pieces of potato with several "eyes" in each piece or small potatoes that can be planted whole. Varieties can be purchased or sprouting potatoes you might have can be cut up. Newly cut seed should be allowed to air dry for several days. Plant the seed in March about one to two inches deep. As the plant grows "hill up" the soil, which is placing soil around the base of the plants, while leaving four to six inches of the plant top exposed. When the potato stems and leaves are covered to exclude sunlight, tubers which are swollen stems, are formed. A "potato tower" can be built using old tires. When the potato plant is eight to twelve inches high place a used tire over the plant. Fill the tire with sawdust or soil to "hill" the plant by covering the stems and leaves while leaving four to six inches of the plant exposed. As the potato plant continues to grow place another tire over the plant and repeat the process. This can be done over

the entire growing season. Harvest "new potatoes" in mid-summer by removing the soil or sawdust, or after the first killing frost by unstacking the tire tower.

Q The house we bought about seven years ago that has four, 18-20 foot cypress trees. They probably are around 15-20 years old. The very top two to three feet of each tree is very dry and brown. The tops look dead. The rest of the tree is mostly green with some brown colored areas that are very dry and dead. Is there anything I can feed the trees or do to bring them back to life?

A There are a few different types of cypress growing in Southern Arizona including Italian, Arizona, and 'Leyland' types. Some upright junipers may look like cypress such as the 'Hollywood Twisted' juniper. The usual reason for dying tops may be borer problems, particularly in Arizona cypress and 'Hollywood Twisted' juniper. Another reason is not receiving sufficient water. If borers have killed the top of the plant then nothing will bring the top back. The plants will probably be deformed. It is up to you whether you can live with that deformity. The tops will have to be removed while allowing the side branches to grow. This may change the shape of the tree. Holes formed by borer exit holes may be seen with

the death of the tree top. The shape of these exit holes are roughly football shaped and about 3/8 inch in diameter.

'Leyland' cypress can also die back from over watering or poor drainage. When evergreen trees die from the top down they are usually not being watered enough. If the top of an Italian cypress is dying it is most likely due to drought rather than borers. What is dead is dead and will not recover. As a precaution, wash down the foliage of cypress trees during the summer heat. This is of particular importance after high winds or if the plants are dusty, to help prevent mite population increases, especially if it is Italian cypress. To test for mites tap a branch over a white piece of paper. If the small spots move, smear the small spots on the paper. If the spots streak you have mites. Use a hard spray of water first to knock the mite populations back. If that does not work try using insecticidal soap. **DO NOT USE AN INSECTICIDE!** Mites are in the spider family and are not insects. Using the wrong pesticide will only kill beneficial insects and lead to resistance. Otherwise water cypress trees deeply and infrequently.

Source:

<http://www.unce.unr.edu/areas/southern/newsletters/> Issue: February 22, 2010

*Robert E. Call
Area Horticulture Agent*

High on the Desert

The Cochise County Master Gardeners Association In conjunction with the University of Arizona Cooperative Extension thank the following for their support of the 17th Annual High Desert Gardening & Landscaping Conference:

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Non-Profit Exhibitors

Cochise County Master Gardeners Association, Ft. Huachuca Water Wise & Energy Smart, Sierra Vista Area Gardeners Club, U.S. Dept. of Agriculture/Plant Protection & Quarantine, Water Wise

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Ace Hardware, Angel Rutherford, Arizona Folklore Preserve, B & B Cactus, Bach's Cactus, Civano Nursery, Cochise County Master Gardeners Association, Felice Dayhoff, De Lewis Family, Desert Trees, Friends of the San Pedro River, Fry's Food Stores, The German Café, Ft. Huachuca *Water Wise & Energy Smart*, Janyce Knight, Little River Nursery, Kentucky Fried Chicken, Mariscos Chihuahua,

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Speakers

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Martin, Cado Daily, Kim McReynolds, Stacey Bealmear, Karen Thomson, Catlow Shipek, Rob Call, Beverly Wilson, Priscilla Brodtkin, Oscar Mestas, and Rick Weisberg

Volunteers

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Centerpieces by De Lewis, Angel Rutherford, Rick Thomas, and Joan Wakefield
Art by Joan Wakefield and Janyce Knight.

Thanks to all of you! YOU made it happen!