



Pinal County Cooperative Extension  
Garden & Landscape Newsletter  
June 2007



## SCORPIONS ARE FRIENDS

Because of its painful sting, the scorpion is often considered to be one of the villains of the desert; but almost lost amidst the unpleasantness of its reputation is the fact that scorpions also play an essential and friendly role in helping control unwanted insect pests.

Although no one advocates keeping these interesting animals as continuous house guests, the fact that they have a healthy appetite for crickets, cockroaches, and other insects makes them, in their native habitat, a friend to humankind.

There are many species of scorpions in the low desert areas of Southern Arizona. Even though different species vary in their potential threat to people, the scorpion's reputation commands a healthy respect, and sometimes a little fear, when the chance encounter brings one up close and personal. Fortunately, most of the time, these encounters usually occur outside when rocks are turned over, lumber piles moved, or leaf litter disturbed; but occasionally these encounters take place inside the home where feelings of concern are magnified and the need for a permanent solution becomes immediate.

Scorpions are eight-legged relatives of spiders and are found throughout the low desert areas of Arizona. They have their own unique shape with a long tail behind and a set of pedipalps, or "arms," that end with a set of pinchers in front. The tail is equipped with a stinger that can inject poison into prey. Because of their appearance and their ability to inflict pain, they often seem strange, foreign, and threatening to many who are unfamiliar with their habits. But many eventually come to enjoy them as unique specimens of the desert, especially as they learn more about them and their niche in the desert.

Scorpions are relatively common in their native range and most desert dwellers frequently see them either outdoors or inside during the warm months of the year. While close encounters can be unnerving, there is no reason to panic or become unnecessarily afraid of them. In fact, many life-long desert dwellers have never been stung.

Scorpions range in size from two to four inches in length. The largest is the giant hairy scorpion, which is often seen as the most scary because of its size, but the venom is relatively mild. One of the smallest of the scorpions is the striped-tail or ground scorpion. Although the sting of these and most other scorpions is painful like a bee sting, it is generally not life threatening.

Potentially more serious is the sting of another relatively small scorpion: the bark scorpion, *Centruroides exilicauda*. The bark scorpion possesses the most painful and long-lasting of the scorpion venoms. Even so, it usually is not life threatening except potentially to the very young, the infirm elderly, and the allergic.

Bark scorpions are a maximum of two inches long with a body and tail more slender than other scorpions. The pedipalps are long and slender. The pinchers are not as greatly swollen at the base as they are in other species. Bark scorpions are a pale gold color and translucent. Other species of scorpions are usually much larger and darker in color. It is the only Arizona scorpion that sometimes climbs vertical surfaces and hides underneath bark fragments, cracks, and crevices in tree trunks and other outdoor hiding places, and indoors behind pictures and furniture.

Symptoms of a bark scorpion sting are an initial burning sensation, which patients have described as feeling like the injured limb has been thrust into a fire. Numbness and tingling of the limb follow, which is reported to feel like the limb has "fallen asleep." Again, the elderly and children are particularly susceptible and should be observed carefully.

If you believe that you have been stung by a bark scorpion or by any other poisonous insect or spider, you should call the Arizona Poison and Drug Information Center right away at 1-800-222-1222. Operators will assist you in seeking appropriate treatment, if necessary.

### IN THIS ISSUE:

<b>Scorpions Are Friends</b>	<b>1</b>
<b>Water Conservation Important</b>	<b>3</b>
<b>Preventing Salt Damage In Plants</b>	<b>4</b>
<b>Growing Giant Pumpkins</b>	<b>5</b>

All scorpions are most active at night during the summer months. It is a good idea to always wear shoes when walking outside at night, and don't touch anything you cannot clearly see. If you feel something crawling on your skin, always brush it away. Never swat! Scorpions only sting because they are threatened.

Scorpions generally prefer to be outside rather than indoors, but they may enter houses for a number of reasons. It is common to notice more movement of scorpions when their feeding grounds have been disturbed by some major changes outside, such as construction or removal of trees. They can squeeze under doors or through cracks easily, and it is not uncommon to find them where you least expect them.

During the day, scorpions seek protective shelter under loose objects such as wood piles, rocks, or bark of trees. Indoors, always look inside shoes before putting them on in the morning and carefully shake out clothing or towels that you believe might have been in a location where scorpions have access.

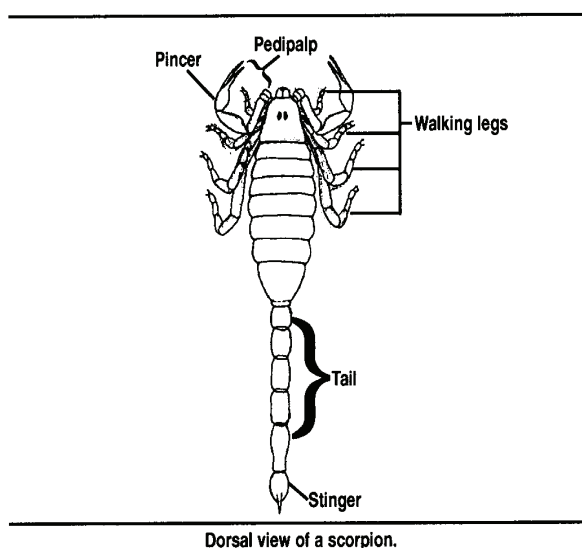
Scorpions are normally solitary creatures preferring to spend most of their lives as independent individuals and only come together briefly to mate. Thus, there is no danger of having scorpion nests in the yard or house. Just because one is found does not necessarily mean that more are more close by, although caution is a good watchword in the desert. Bark scorpions may aggregate in "piles" of twenty to thirty during the winter under firewood or debris, but this is not considered to be a nest.

To minimize the possibility of scorpions, consider removing sites where scorpions hide such as rock or wood piles, loose boards, debris, and old tires. Be sure to wear heavy work gloves when doing these chores. Tighten door and window seals to keep insects and scorpions outside. Check for other openings, such as vents or holes, and cover or close them. Have palm trees pruned and peeled regularly to ten to fifteen feet above the ground.

At night, a black light is a useful tool in finding scorpions because the animals glow in the dark when the light shines on them. The scorpions can then be dispatched or captured and released later in a safe location.

The scorpion is one of those animals of the southwestern deserts that arouses curiosity, and sometimes fear, because it looks strange and can inflict pain. However, scorpions also play a key role in the environment of the desert providing a check and a balance to the insect populations of the area.

For more information about scorpions, call for a free leaflet entitled "Scorpions." If you have questions, you can reach one of the Master Gardener volunteers at the Cooperative Extension office, 820 E. Cottonwood Lane, Building C, in Casa Grande. The telephone is (520) 836-5221.



*Trade names used in this publication are for identification only and do not imply endorsement of products names or criticism of similar products not mentioned.*

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, James A. Christenson, Director, Cooperative Extension, College of Agriculture and Life Sciences, The University of Arizona.

The University of Arizona is an equal opportunity, affirmative action institution. The University does not discriminate on the basis of race, color, religion, sex, national origin, age, disability, veteran status, or sexual orientation in its programs and activities.

## WATER CONSERVATION IMPORTANT

With the entire Southwest gripped in a long-term drought, water conservation is a most urgent topic.

Recent projections tell us that we, for all intents and purposes, cannot expect an end to this drought in the near future. Tree ring studies have shown that desert climatic patterns regularly rotate between wet times and dry times, with the duration of the pattern lasting thirty years or longer. Since we are only in the tenth year of this current dry spell, we have to assume that we still have a ways to go before we can expect the return of above average precipitation patterns.

Right now, we are mostly dependent upon groundwater and Colorado River water to meet the growing needs of our Central Arizona population. Groundwater is water that has accumulated in underground soil layers from centuries of rain and snow here in the desert and up in the mountains. Colorado River water comes to Central Arizona through the Central Arizona Project Canal system.

We do not know for sure exactly what the future may hold. The drought could break dramatically at any time, or it could continue unabated for decades. We just do not know, but one scenario, not so far fetched, makes me pretty nervous. If the drought spreads to include the headwaters of the Colorado River and we continue to pump more water than what flows into the aquifers, we could eventually run into some real problems.

You likely will hear more about drought management in the future because the Governor's Drought Task Force, the Arizona Department of Water Resources, Pinal County government and local agencies including the University of Arizona Cooperative Extension, and the local Natural Resource Conservation Districts are beginning to discuss these very issues. For the time being, however, we just need to become more aware that long-term dry spells are part of living in the desert and that it takes all of us to make every drop of water count. Water conservation, then, will be a critical topic for discussion and action in Central Arizona for years to come.

There are many ways to conserve water and still maintain the beauty and function of our outdoor landscapes. Irrigating plants correctly is one way. Using low-water-use plants, xeriscape plants, is another. Both are essential to maximize the benefit of our precious water supplies.

The word "xeriscape" comes from the Greek word *xeros*, which means "dry." "Scape," of course, comes from the word "landscape." The word xeriscape, then, actually means "dry landscape" or a low-water-use landscape.

Xeriscapes make use of desert-adapted plants that, once established, can survive on little or no water, depending upon rainfall patterns. In no way does xeriscape come from or refer to "zeroscape," which means no plants at all. Trees and shrubs play a critical role in the landscape by providing shade and screening and helping reduce heat accumulation in the hard, nonliving parts of the landscape. Unshaded rocks, cement, and graveled areas absorb heat in the sunlight and then radiate the heat back into the living environment. This heat often enters the home and warms the interior. To keep the home at a constant temperature, homes that are zeroscaped often require

additional electrical energy above those that are effectively xeriscaped.

Xeriscapes can take on a variety of styles, one of which will probably match the personality of most people. The more popular styles include the Tropical/Mexican style, the Mediterranean style, the Southwestern style, and the Sonoran Desert style. The Cooperative Extension office can help by providing information on each of these styles.

Correct irrigation requires good planning and the proper timing and placement of water around our plants. One of the most important decisions affecting water conservation occurs during the landscape planning phase. It is absolutely critical to group plants having similar water needs and put them on the same irrigation line, if possible. Plants with similar water requirements can have their needs more easily met when they are located close together on the same irrigation line. Waste can also be minimized.

Don't forget that water harvesting, if and when rainfall does occur, can help cut the need for the number of irrigations during the year. As you contour your property, create depressions that will capture and direct rainwater as needed.

Timing of irrigations is best decided by watching the soil moisture levels. If you have access to a soil probe, sample the soil at varying depths of the root zone. If not, a good approximation can be developed by digging down six inches into the soil with a hand trowel or shovel. Test the soil moisture level by feeling the soil sample with your hand and determining whether it feels wet or dry. Form a ball of soil by firmly squeezing a handful of the sample. Make a ribbon by pressing the soil between the thumb and forefinger. Irrigate when the soil moisture fits the following description.

For sandy or coarse soils, irrigate when the soil tends to stick together slightly but does not form a ball when it is squeezed in the hand. For silty soils, irrigate when a ball forms but its strength is weak and its appearance is crumbly. For clay soils, irrigate when the soil is pliable, will form a ball, but is too dry to form a ribbon easily.

Why is timing necessary? If the soil stays too wet, such as when plants are watered too frequently, the roots of the plants may rot, leading to damaged or dead trees. Bougainvillea will not get the lush, colorful blooms for which they are so well known when they are over watered. If the soil becomes too dry for too long, death from a lack of water can occur.

Water placement is also important. The entire root zone needs to be moistened to a depth as deep as the roots penetrate. Make sure that the water delivered surrounds the plant on all sides and places most of the water out near the edge of the canopy where most of the roots are located. Use a long probe to check water penetration after an irrigation. I like to use a two-foot long screwdriver for this purpose. Most trees need to be wetted at each irrigation down to a depth of about twenty-four inches or more. Most shrubs can get by with an irrigation that reaches eighteen to twenty-four inches.

Conservation of precious water resources requires good management on the part of all of us.

## PREVENTING SALT DAMAGE IN PLANTS

Salt damage is a likely cause of plant distress during the summer months of June, July, August, and September. It is one of the greatest challenges that a desert gardener or landscaper must face. Let's talk about salt, the havoc it creates, and how we can keep the damage to a minimum.

Salts are chemical compounds of common, everyday elements that are broken down from rock formations worldwide. Soluble in water, they are easily dissolved as rainwater moves through the soil profile. In high rainfall areas, the large volume of water moving through the soil carries these compounds down through and past the root systems of plants so that accumulations never reach toxic levels. This is why salts are rarely a problem in the less arid areas of the country.

In the desert, however, rainfall is relatively low and soil moisture levels rarely reach the point where gravity can pull water and dissolved salts below the root systems of plants. Many native plants are adapted to these conditions and do not seem to be bothered by salt in their environment. Those native plants that are susceptible to salts simply do not grow where salt accumulations in the soil have reached toxic levels. But when susceptible, non-native plants are brought into the desert and planted into a salty environment, trouble occurs.

Salt injury can occur at any time during the year but seems to be more frequent during the hot summer months when plants are under peak stress and using water at a rapid pace. The increased metabolism of plants during the summer speeds the accumulation of salts and hastens the appearance of symptoms in plant tissues.

Salts dissolved in water are generally absorbed by plants through the roots. Once inside, they move up through the water-conducting tubes to the leaves where they are left behind as water evaporates out of the plant through the process of transpiration. When sufficient salt has been deposited to reach levels toxic to that particular plant, symptoms appear.

The most common symptom of salt injury in plants is the dying back of tips and edges of leaves. As salts accumulate, the plant tissue in these areas may turn yellow first, but this is not always the case. The browning of these tissues is caused by the actual death of cells and tissues. As the condition worsens, the dead, brown areas may get larger until the entire leaf dies and falls from the plant.

Sometimes salt accumulates in the soil around roots to the point that it prevents the absorption of water by the plant. It is easy to tell when this happens by looking at the leaves and soft stems. The soil will be moist around the plant, but the plant itself will show water stress symptoms, including hot, wilting, drooping leaves and stems. Often times, these symptoms will be accompanied by the tip and margin burn symptoms described earlier.

Another symptom of salt problems is iron deficiency. Because salts have a basic or alkaline pH, they can raise the soil pH to the point where iron and other nutrients are insoluble in the soil. High soil pH values make it difficult, if not impossible, for the plant to absorb and use these essential nutrients.

Leaves of tender plants show iron deficiency symptoms when they start to turn a pale to brilliant yellow color, but the veins of the leaves stay green. This is a sign of iron deficiency. When this happens, cut back on the watering frequency while increasing the length of time the water is being applied to the soil and treat the plant with a chelated iron fertilizer product. The leaves should turn green within a week to 10 days.

The solution to salt problems is usually fairly simple. In most cases, salt accumulations are caused by frequent, shallow irrigations. First, make sure that the basin around the plant is at least as wide as the outside edge of the plant. This will help wet as much of the root system as possible.

Second, during irrigations, turn down the volume of water coming from the hose to a trickle and slowly fill the basin around the plant. The extra water from the longer irrigations will sink deeper into the soil and move the salts down and away from the plant. There is an added benefit to doing this. Water stored deep in the ground will allow lower roots to help support the plant's water needs and lengthen the time necessary between irrigations. For those using drip irrigation systems, increase the duration of the irrigation set to provide the volume of water needed to leach the salts.

For leaves that already have dead tips or margins, there isn't much that can be done to alleviate the damage, because the tissue is already dead; but new leaves that grow after treatment should not show new damage if the problem has been solved.

Sometimes the soil does not readily accept water because of a hard layer, like caliche, or because of a chemical imbalance, like an overabundance of sodium. Physical barriers can be fixed by digging or drilling holes down through the compacted layer to a more permeable soil layer that will accept the salty water and move it away from the root zone. Backfill the holes with sand to help keep the hole from caving in and reconsolidating.

If sodium salt is a problem, water may stand for hours and sometime even days before it sinks in or evaporates away. The rule of thumb for managing sodium is this: if it takes more than 30 minutes for water around a plant to sink in, treat for sodium.

Gypsum, available by the bag at most nurseries, is an ideal way to deal with sodium problems. Sprinkled on the surface of the ground and gently raked in before a deep irrigation, gypsum will replace the sodium in the soil with calcium. The deep irrigation then leaches the sodium out of the root zone.

Soil sulfur can also be used to eliminate sodium but it will only work if there is calcium or free lime already in the soil. Sulfur, wet with water, becomes sulfuric acid, which combines with the calcium to form gypsum. The process then proceeds as described above.

The summer is a difficult time for plants, even those that are adapted to the extreme heat of the desert. Salt damage is one of the more common problems that gardeners must face during this time. By correctly managing irrigation water, most salt

# GROWING GIANT PUMPKINS

So, are you a giant pumpkin fan?

Are you one who secretly dreams about growing the biggest, heaviest pumpkin anywhere around? Do you picture in your mind's eye a big 'ole monstrous yellow-orange thing sitting out in your garden, peaking out from under its canopy of leaves, just waiting to tip the scales and give you instant recognition among the blue ribbon pumpkin growers of the world? Lots of people do, apparently.

Perhaps you have run across web pages of growers from Washington State to Sweden who baby along and eventually harvest prize pumpkins just for the fun of growing something that big all by themselves. Maybe you have grown them back home and are wondering if you can do it in the desert? Well, whatever the reason, the experience of the giant pumpkin grower proves that it can be done. So why not you?

Now I do not want to fly under false colors here. I have never grown one of the giants. I have grown pumpkins, but mine have always been jack-o-lantern size. However, many of the rules are pretty much the same. If you are interested, let's talk.

The first rule to remember is planting date. Now is not the time to plant. It used to be that we could plant pumpkins here in Pinal County beginning in early July to early August and expect to harvest fruit just before Halloween. That doesn't work so well anymore. It isn't the heat that is the problem because there are varieties that can handle the heat of our summers. The real problem is insects, the sweet potato whitefly, to be specific.

The whitefly is a small, yellow-bodied insect, related to aphids, with white wings and a sucking mouthpart. While feeding, it injects a toxin into susceptible plants that seriously injures the plant and limits its capacity to produce fruit. There is no real control available to gardeners, so we plant at a time of the year when the whitefly is essentially inactive.

Whiteflies are a tropical insect, which means they love the heat. The hotter it gets, the faster they complete a life cycle from egg to adult. During the heat of the summer, we see their populations reach such levels that they can devastate many plants. Squash, and particularly pumpkins, are quite susceptible. The good news is that their life cycle slows dramatically during the cooler months, and our plants find respite. The best time to plant, then, is in the early months of the year: January and February.

It usually takes about five to six months of growing time from seed to harvest, so growing giant pumpkins requires a significant commitment of time. Fortunately, a harvest time of mid-May to early June fits quite nicely with a planting time of January to February. Of course, January and February are also times of frost. The average date of our last killing frost in the warm valleys of Pinal County is about March 6. So early seeded pumpkins will need frost protection. Starting the seedlings indoors and transplanting outdoors once the seedling produces its first true leaves will probably also require frost protection outdoors, but plastic hot caps or specially designed filamentous horticultural cloth (floating row covers) should do the trick.

Pumpkins need a lot of room to grow because they have large, rangy vines and big leaves. Many sources say that one vine will need about 2,400 square feet or a space that is about 60 by 40 feet. I know that sounds like a lot of space, but do not forget that these pumpkins are huge, and they need a lot of leaf surface area to

create enough food to sustain the fruit as it grows. If you have ever grown squash or melons, you will know that these relatives also take up lots of space. Pumpkins are much larger vines.

Okay, now before you say that you do not have 2,400 square feet and throw up your hands and say, "That's it for me!" think creatively about how you might interweave the vines amongst your existing landscape plants or around your yard. There are always possibilities.

Soil preparation and irrigation will also be critical to successful pumpkin production. These large vines need a lot of nutrients and a steady supply of water. As you select your main growing area, recognize that the roots of the plant will extend out away from the central stalk in all directions for many feet. It will be from this area that the plant will extract nutrients and water. Therefore, it will be important to work the soil deeply out from the central stem, or crown, of the plant to a radius of a minimum of about six feet. The addition of organic matter, such as compost or steer manure, can significantly increase the fertility of our desert soils.

Trickle irrigation systems using several emitters around the crown or a soaker hose spiraling over the root system are the best ways of delivering water to these plants. Remember to increase the amount of water to the plants as the season progresses and the temperatures warm.

Another key to successful production of giant pumpkins is selecting the right variety. Regular jack-o-lantern varieties will not work in this situation. We need a variety that will have the genetic capacity to produce the larger fruit that we are seeking. An Ahwatukee grower said that his favorite variety was Atlantic Giants. In Australia the variety produced a 950-pound pumpkin. With our stressful environment, 800 pounds may be a realistic goal. The Arizona record with any variety is 385 pounds, so the race is on.

Now there are many other "tricks of the trade," so to speak, that I cannot address here. However, if you are really interested in learning how to grow these monster fruit, you will want to get deeply involved in learning for yourself all of the steps to successful production. I certainly would not want to take away the thrill of the chase and the joy of learning by giving you everything. If you would like to know more, you might start by looking on the internet by searching for the key words of giant pumpkins or even the variety name of Atlantic Giants. There is a discussion group that you can join at [www.bigpumpkins.com](http://www.bigpumpkins.com).

Do not forget that much of what is on the web is designed for other climates and environmental conditions.

The author's email address is [gibsonrd@ag.arizona.edu](mailto:gibsonrd@ag.arizona.edu). If you have questions, you can reach one of the Master Gardeners at the Cooperative Extension office, 820 E. Cottonwood Lane, Building C in Casa Grande or please telephone us at (866) 836-5221 ext 204. If you wish to receive this newsletter electronically, please email [tellswor@ag.arizona.edu](mailto:tellswor@ag.arizona.edu) and use the keyword: *G&L* in the subject line. Thank you.

*Richard D. Gibson*

Richard D. Gibson

Extension Agent, Agriculture

RDG/te



## **Rainwater - Save It For Later**

Picture it...wonderful, life-supporting rain water falling from the sky. It nourishes your plants; they drink thirstily. But much of the rain water runs off your property. Why let it run off when you could be taking advantage of this "salt free" irrigation water? This class will teach you how to alter your landscape to capture this precious resource. The cost is \$15.00 for non-members. For more information or to register, please contact:

Vera Walters (480) 677-7707 [vera.walters@centralaz.edu](mailto:vera.walters@centralaz.edu)  
C.A.L.L. (Central Arizona Lifelong Learners)  
Central Arizona College, Superstition Mountain Campus  
273 Old West Highway  
Apache Junction, AZ 85219

## **Saddlebrooke Fall 2007 Garden & Landscape Short Course Scheduled**

The Garden and Landscape Short Course for Saddlebrooke has been scheduled to begin on Thursday, August 9, 2007 through Thursday, October 25, 2007, from 9:30 a.m. to 12:30 p.m. in the Ballroom of the Mountain View Club House. For more information or to sign up for class, please contact Hedy Gryzsan at 520-818-3899 or email her at [johng61548@wbhsi.net](mailto:johng61548@wbhsi.net).

We are in the process of scheduling the dates for the Fall 2007 Garden and Landscape Short Course to be held in Maricopa.

## **Garden & Landscape Newsletter Mailing List Update**

We are attempting to update our G & L newsletter mailing list, so be on the look out for a postcard explaining this in more detail. Your response to this postcard will be much appreciated.

The newsletter is now available to view online at  
<http://cals.arizona.edu/pinal/horticulture/newsletter/index.html>