

NOVEMBER 2018 Garden & Landscape Newsletter

U of A Cooperative Extension, Pinal County 820 E. Cottonwood Lane, Bldg. C., Casa Grande, AZ 85122 (520) 836-5221 http://extension.arizona.edu/pinal

PINAL COUNTY MASTER GARDENERS

I want to again publicly thank our team of Master Gardener volunteers for all that they do for the people of Pinal County.

Extension Master Gardeners are individuals who love not only to grow plants themselves but also enjoy helping others. In Pinal County, these volunteers donate thousands of hours each year to help with many different types of projects countywide. As part of the Arizona Cooperative Extension, a department in the College of Agriculture and Life Sciences, they are certified volunteers for the University of Arizona. I am very proud of them all.

The Cooperative Extension Master Gardener program first began in the state of Washington in the early 1970's. Because of its success there, it was adopted in state after state. Our Pinal County program began in 1982 when we trained our first group of volunteers. It has grown in numbers of volunteers and service hours since that time.

Master Gardener volunteers are individuals who are certified by the land grant university or college within a particular state to work along side a local Extension professional to help plan, deliver and evaluate local garden and landscape programs. In Arizona, the University of Arizona is the land grant institution that conducts Extension programs statewide.

Certified University of Arizona Master Gardeners volunteer to serve, fill out an application indicating their gardening experiences and why they want to serve, successfully complete a rigorous twelve week training program and pass a certifying examination that allows the University to accept them as trained and certified volunteers. To complete their certification, they must perform fifty hours of service during the first year and then twenty-five hours every year thereafter in order to maintain their certification. They must also report six hours of approved gardening education each year. They have to stay current in their knowledge.

When we talk about Extension Master Gardeners we are really talking about everyday people who have gained experience and want to share it. You can be sure that none of our Extension Master Gardeners are in it for the money. As volunteers, they do not get paid, except in the satisfaction of knowing that they have helped someone. They will not try to sell you a product; and they certainly are not in it to have people look at them as fountains of all knowledge. My Master Gardeners, if you asked, would simply say that they are willing to learn and want to share. You can be sure that when they answer your question, they are giving you local, research-based information authorized by the University of Arizona Cooperative Extension.

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While some Extension Master Gardener programs focus on a few projects or tasks, in Pinal County we tend to take a broader approach. The projects in which our volunteers are engaged are often a reflection of their own interests and experience. In every case, you will note enthusiasm for what they do and the love they have for plants.

In Pinal County, our area of service is so large that we have several nuclei of volunteers. We call these individual clusters "working groups." At this time there are five working groups countywide. The five working groups include: Greater Casa Grande Valley, focusing on Florence, Coolidge, Eloy and Casa Grande; Maricopa, housed at the Maricopa Agricultural Center; SaddleBrooke on the south side; Superstition Mountain in northern Pinal County, and San Tan Valley in the center.

All working groups do some of the same stuff but also have additional projects that are unique to their area. Master Gardeners in working groups interact with the public. All answer questions and share insights when contacted. Some sponsor and teach at public seminars, others give lectures and help teach down to earth, non-university credit classes. Still others help me conduct field research or communicate through written and electronic media. Some answer garden calls, organize field days, operate office equipment and take care of teaching collections; and these are just a few of the many projects we have going on. However, the working groups each are different in key ways.

The Central Arizona working group works in direct support of the local Extension office by duplicating and collating many of the bulletins available for distribution from the office. They also sponsor booths at Pinal County Fairground events, like the county fair and other activities.

The Maricopa working group focuses on doing research and public outreach by managing a demonstration garden and orchard at the Maricopa Agricultural Center. They also sponsor plant clinics and open house seminars at that location.

The SaddleBrooke group is located so far south that many of the volunteers have a Tucson mailing address, but they all live and pay taxes here in Pinal County. They offer plant clinics, diagnostic services and seminars in their community.

San Tan Valley is our newest working group. Organized just a few years ago, they are now focusing of projects to benefit their neighborhoods.

Finally, the Superstition Mountain working group sponsors demonstration gardens, public seminars and other educational activities in the Apache Junction, Gold Canyon and Superior areas. They also volunteer many hours of service at the Boyce Thompson Arboretum.

I suspect you might imagine logistical challenges that could arise from so many groups spread out over so large an area. In reality, we have very few problems. Our secret lies in our Master Gardener Advisory Committee. Each month, the appointed leadership of each working group comes together to discuss common issues, plan countywide programs, and develop and set policy. All decisions are unanimous in this council system of leadership. Even though the team includes strongly motivated people with many wonderful ideas, I am constantly amazed as to how they can quickly come to consensus and then move resolutely to put plans into action. The council system works extremely well as the success seen within each of the working groups will attest.

Master Gardener volunteers make a difference in people's lives by helping them be successful in their gardens and landscapes. Without them, I would not be able to get the job done.

THE PERPLEXING ACACIAS

Some of the most useful and hardy of desert landscape plants are those that bear the name of acacia but the great variety of shape, sizes, and uses can often make it difficult to decide which one to plant. Just who are these guys and how do we make heads or tails out of them?

Those who love landscape plants are not the only ones asking that question. Scientists for decades have been debating back and forth about the various plants and what they should be called. The most recent issue of "Desert Plants," a magazine published for the Boyce Thompson Arboretum by the University of Arizona, lists name changes for twenty different Acacia plants that are either native or are adapted to our climate. Until the new names for these plants start showing up in references and in general discussion, I would suggest that we just keep using the old acacia designation so that we do not get confused. It is important to know, however, that sooner or later, we will have to come to grips with the new names because the debate about plant relationships will not go away.

We have to ask ourselves, "Just what is in a name, anyway?" From a practical viewpoint, we are not so much interested in the name of plant as much as we want to know that it will perform the landscape job that we need it to do. How does it look? Will it show colorful flowers? Will it live where I need it to grow? Those kinds of questions are what we really want to know. Still, if we are going to accurately describe a plant, and decide if it will do the job required, we need to know the various names for the plant, just for clarity's sake. In this article, I am going to continue to call them acacia, but where a name change has occurred, I will give the new name also.

Are you familiar with the acacias? While the name may or may not ring a bell, those of us acquainted with desert landscapes would recognize them readily when they saw them because they are so prevalent. One of the reasons that they are so perplexing is the great variety in their origins and in their structure. That is why scientists continue to focus their attention on them.

Members of the acacia can be found from alpine forests to the driest of deserts. Not only that, but they come from all corners of the earth. Most are native to Australia, but there are also many from the Old World, particularly Africa. We have several native to Arizona that are often used for landscaping purposes here locally. Added to all of that is their varying structure. Some grow into tall trees and some grow prostrate to the ground. Some have long, nasty thorns and some do not. When we take into consideration all of the variability, it is easy to see why the scientists in charge of names are still trying to get it all figured out.

With all of that said, let's wade right into the fray and take a firsthand look at some of the plants we normally add to our landscapes that carry the name of acacia. The easiest way to split them up in a way that makes sense is to divide them into two groups: those with thorns and those without. I believe that we can all agree that this is an important feature to know before we plant, if we want to avoid the unpleasant effects of getting too close for comfort. In the landscape, most people wisely decide to plant those with thorns in out-of-the-way places where the casual wanderer will not come in contact with the thorns. The thornless types are more commonly used where human interface may be likely.

Two acacia with thorns that are native to Arizona include the whitethorn, Acacia constricta, and cat-claw acacia, Acacia greggii. Whitethorn has long, straight, white-colored thorns that are most obvious when the plant is young. It is hardy to desert conditions and like to locate the plant next to a wall or a corner away from traffic. In the spring, the plant produces yellow puffball-shaped flowers that have a pleasant aroma. This is one of the plants with a new name. The new name is Vachellia constricta.

Cat-claw acacia should not be confused with other plants that carry a similar name. The cat-claw acacia is a small shrub that can grow larger with extra moisture. It is named for the curving thorns located along the stem in an alternating pattern. The thorns resemble closely the shape and size of the claws of a cat. It produces many long, cream-colored flowers in the spring. It also has a new name: Senegalia greggii.

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Another common acacia with thorns that is planted a lot locally is the sweet acacia, A. farnesiana. It is a low-growing tree that can grow up to twenty-five feet tall, but rarely does in our area. It is one of the first to flower in the spring and has a strong, sweet-smelling aroma that makes it easy to pick out during its flowering period. The yellow round flowers cover the plant and give the tree a shot of bright color when in bloom. The new name for sweet acacia is Vachellia farnesiana.

There are also three commonly planted acacias that do not produce thorns. These include prostrate acacia, A. redolens; willow acacia, A. salicina; and shoestring acacia, A. stenophylla. All three of these plants have retained the Acacia name.

As its name implies, prostrate acacia is one that is rather low growing in its nature. It can be expected to grow generally to two feet in the air but loves to spread out over the surface of the ground. Its dense, spreading mound shape make it perfect for covering bare ground and hiding wildlife in a garden. It likes full sun and is drought tolerant once it is established. It experiences few problems in our area.

The willow acacia, A. salicina, will grow up to forty feet tall and spreads to about twenty feet at full size. The tree is good for shade and is quite hardy in our area. The dense crown can catch wind easily and some limb breakage is possible. Thinning the canopy helps to prevent storm damage.

The shoestring acacia, A. stenophylla, is named from the twelve-inch long slender leaves that remind some of shoestrings. It requires little water and encounters few problems in the desert. It can reach thirty feet tall and about twenty feet wide. It has a more open canopy so its shade footprint is less than the willow acacia but it is still used successfully as both a shade tree and an accent plant.

Most acacia plants will do very well under Pinal County conditions. They will demand only a minimum of water to stay alive, but given larger amounts most of the shrub-like plants will grow into small trees. Since they are in the legume family, they create their own nitrogen supplies by entering into a mutually beneficial relationship with Rhizobium bacteria which extract free nitrogen from the air and turn it into nitrate, the form of nitrogen most commonly used by plants for growth and development.

Even though we may not have all of the answers as to why there is so much variety among the many acacias, one thing we do know. The many varieties of acacia provide lots of excellent choices in the landscape. By understanding the many different forms, and knowing their specific needs, we can use this valuable group of plants to create well-designed and beautiful desert gardens.





Shoesting Acacia

University of Arizona Cooperative Extension

PINE BARK BEETLES IN THE DESERT

While much has been much written about the pine bark beetle infestations in the forests of northern and eastern Arizona, relatively little has been said about the possibility of the beetles making the transition from higher elevations to our low desert pine, juniper, and cypress landscape trees.

The severe drought of recent years has been devastating to the health of our higher elevation forests. Triggered by drought, insects, disease, and other factors, pine trees and their close relatives have suffered widespread injury and death across many acres of trees and shrubs statewide. From the "sky island" mountains of the south to the high mountain forests up north, dead and dying trees have been the norm rather than the exception.

Along with the normal fuels laying on the ground from many years of fire suppression, affected trees have supported major fires that have devastated large areas and put homes, neighborhoods, communities, wild animals, and human life at risk. The large, threatening fires, I am sure, are fresh on the memories of all Arizonans, and we are often quick, perhaps too quick, to place the blame directly on the bark beetle.

The bark beetle, however, is not really the primary culprit. They are secondary, meaning that they are a problem because the primary culprit is doing its thing. Bark beetle populations are a direct result of the amount of water in the tree. The drier the tree, the more bark beetles will be a problem. It is drought, either from a lack of rainfall or poor irrigation practices in urban areas that is the real problem. Insect activity, and the resulting damage, increases in drought stressed pine trees. How does that happen?

The most common insect associated with bark beetle damage in Arizona high altitude pine forests is the Ips beetle. This is the Genus scientific name for a group of insects that are collectively called engraver beetles. They are called engraver beetles because of the tunnels that they chew in the nutritious sapwood which is found just underneath the bark of the tree. Heavy infestations can result in the eventual girdling and death of the tree. Because this damage destroys not only the tubes that carry food created by photosynthesis in the needles down to the roots, but also the cambium layer which is the place of dividing cells that could eventually heal the tree, heavy populations can easily kill the tree.

Most of us are familiar with pine gum, the thick, sticky fluid that gets on our hands, in our hair, and on our clothing when we handle freshly cut pine wood. Pine gum, we prefer to call it resin, flows freely in special tubes, called canals, that carry it throughout the plant. When, for one reason or another, the resin canals are damaged or cut, such as when a bark beetle adult or larva chews through the tube, the resin flows out through the damaging cut, fills the channels, and envelops the beetle so that it dies. This protective mechanism works best in good rainfall years when there is sufficient pine gum to get the job done. It helps the tree survive bark beetle depredation. In dry years, especially after years of repeated drought, there often is insufficient resin in the canals to provide the needed protection and the insects left unhindered can easily do their thing. In these cases, the tree often dies.

The bark beetle is able to inflict heavy damage during drought periods because of several other reasons. First, the beetle is a chewing mouthpart insect. As compared with insects with sucking mouthparts, like aphids, whiteflies, and mosquitoes, insects with chewing mouthparts can do a lot of damage to trees and shrubs. Because they chew their food, they can create a lot of holes in leaves and, in the case of bark beetles, the wood. The affected parts are not just damaged, they are completely gone.

Second, chewing insects don't just fly in, grab a snack, and fly off. They usually set up housekeeping and hang around for long periods of time. The longer they are present, the more damage they can cause.

Third, there can be multiple generations involved. Once the bark beetle finds a likely tree, not only does it feed to benefit itself, but it also uses the same tree to receive the eggs that will start another generation. As more and more generations become involved, the feeding and burrowing activity can escalate quickly and thus magnifying the damage cycles.

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Fourth, both the adult and the larva of the beetle are active chewers. Moths and butterfly adults, as a contrast, may take up energy from plants by sucking nectar from flowers, but only the larvae actually cause damage by chewing. The damage resulting from both adult and larval chewing can cause significant problems for infested trees.

In the past, we here in the low deserts have been able to take comfort in knowing that the bark beetle was pretty much a problem at mid to high elevations in Arizona with populations extending down to about 5,000 feet elevation. For Tucson, Phoenix, Casa Grande, Yuma and other similar cities at elevations below 2,000 feet elevation, the bark beetle was pretty much out of sight-out of mind, except of course when we watched in horror the devastating fires sweeping across the forested parts of the state. That all changed a couple of years ago. The bark beetle was found living and reproducing in the urban pine trees of Tucson. Affected trees included the Aleppo, Afghanistan, and Canary Island pines. The fact that they were doing so well shocked the horticultural world, and, the answer to the "how did they get there?" question was a shock as well. It was also a wakeup call.

After investigation, it was determined that the beetles had most likely been transported down the hill to their new homes in firewood. Now, I am one that likes to use firewood to get warm in the winter and to cook outdoors. I am definitely not saying that we should abandon those activities and give up the use of firewood. On the contrary, commercial firewood providers take extra pains to make sure that they sell a quality product. I am not worried a bit about purchasing and using their wood. I am saying that if we go up the hill to collect our own wood, we should definitely be careful so that we are not bringing home unwanted problems, and never stack such wood next to a pine tree in the yard.

Bark beetle damage can be recognized by the engraved tunnels just underneath the bark. The bark itself will usually have small, round exit holes about the diameter of pencil lead on the exterior of the bark. Sometimes there will be sawdust on the outside of the hole. If you see anything like these symptoms, look further to see if you can find the actual small, black beetle or pale white larvae with pink to red heads.

Landscapers statewide have been trained to search for these symptoms. I think it important for all of us to be so trained. Every time I look at a conifer, I do a quick search for any signs. So far, they have not been found anywhere in the low deserts except in Tucson, so we know that they do not spread easily. For that, we can be grateful. Still, if they ever do show up, they are easily dealt with by making sure that we irrigate our trees and shrubs correctly. In so doing, there will be plenty of resin to keep them under control naturally.

While the bark beetle has had a major impact on the forests in eastern and northern Arizona and throughout the west, we are fortunate that the insect has not yet made a widespread migration from the mountain tops to the low valleys. If we are vigilant and careful, it is so far considered unlikely that they will cause major problems to low desert pines, junipers, and cypress any time in the near future.



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QUEEN'S WREATH VINE

If you are looking for a climbing vine that grows quickly, requires a minimum of water and fertilizer, and has beautiful flowers, you might want to consider Queen's wreath.

In most landscapes, there is that spot in the yard where you just need a vine growing on a trellis to provide shade, screening, or color. In most cases, we want a vine that grows quickly, has dense foliage, produces a lot of colorful flowers, and is able to withstand the heat and dryness of the desert. There are several options to choose from but one of the most successful in each of these categories is the Queen's wreath vine.

The scientific name for Queen's wreath is *Antigonon leptopus* and the plant is a member of the knotweed family. Now I know that anything with the word "weed" in it will raise the eyebrows of some because nobody wants to add any weeds to our yard. We already have plenty of them, but, there are several species within the family that are excellent as ornamentals and Queen's wreath is one of them. It produces a dazzling array of pink-colored flowers that can be eye-catching all by themselves. When planted as a backdrop for other colorful flowers, such as roses or bougainvillea, the effect can be truly spectacular.

Because the vine is fast growing and is covered with dense-growing, heart-shaped leaves, it is excellent for screening off a unsightly outdoor service or storage area or for providing much needed shade in a full sun area. It is one of those vines that absolutely love our desert conditions, which is a real plus.

If you decide to plant a Queen's wreath vine, you need to provide it with either a solid trellis or a wall upon which it can grow. The many stems of the vine with its display of leaves will be quite heavy overall and a flimsy trellis will just not be able to support the vine. Each stem of the vine will sport many grasping tendrils that give the vine the capacity to hold onto the support structure and climb just about any surface. Most people prefer to provide the vine with its own trellis just to make it easier to prune and thin when the dense growth becomes too thick, or dies back after a winter freeze.

Favorite locations to place Queen's wreath is on south-facing exposures of homes or carports, on a free-standing arch out in the landscape to cover a path or to serve as a dividing line between sections of the garden, on a fence to provide screening, or just about anywhere where color is important in the landscape. Queen's wreath is an excellent choice in any of these areas.

One plant will generally be sufficient to provide coverage in most cases. The plant can grow up to twenty feet wide and forty feet tall if it has the support, but the plant tends to thin towards the side and if there is a need to cover a long run, such as an extended sidewalk or along a wall, multiple plants may be needed to give good coverage. Most people plant a vine every three to four feet to fill in gaps quickly and provide the dense shade needed in these locations.

Queen's wreath does have a few drawbacks to consider. It is not very cold weather tolerant. During heavy freezes, such as sometimes happens here in Pinal County, the entire vine can freeze back right to the base. That means all of the growth above the ground will die back completely. This is not a real problem because it tends to quickly grow back in the spring when the weather warms. We just need to be aware and prepared for the eventuality. Dead vines are easy to remove once they have dried out. A long-handled rake is the perfect tool to grasp onto the mass of dead growth and pull it down to the ground where it can be disposed of.

With the trend toward warmer winters that we have been seeing the past few years, the vine generally will not freeze back every year. It takes a freeze down into the mid to low twenties for that to happen. Even if the vine dies back completely, this is really not a catastrophe because the dense growth tends to shade out the vines that are buried underneath the outer layer of growth and it is recommended that the vine be cut back every January anyway. The vine quickly regrows from underground tubers in the spring and the pruning helps renew the vine to keep it vigorous. It also removes dead wood and leaves that could become a fire hazard when the vine is planted up close to a house or other structure.

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QUEEN'S WREATH VINE . . . CONTINUED FROM PAGE 7

While Queen's wreath is not fussy about water, it does best when given adequate irrigation, especially during the hot summer months. During times of heavy growth or hot temperatures, it is a good idea to irrigate the vine at least twice a month with enough water to sink down into the ground eighteen to twenty-four inches. The roots will grow down that far. Some find that irrigating once a week gives them best results. To determine if the entire root system is getting wet, I like to use a long screwdriver to test the depth of water penetration. Where the soil is moist, the screwdriver will slide easily into the ground. When it hits dry soil it will stop short. By placing fingers on the barrel of the screwdriver at the surface of the soil before withdrawing the screwdriver, one can tell how deep the water has gone by measuring the distance between the fingers and the tip of the screwdriver.

The vine isn't really fussy about fertilizer either. It will get by without, but it really does best with several applications of fertilizer each year. In our desert soils, the most important nutrients to apply are nitrogen and maybe once a year phosphorus. On the fertilizer bag you purchase at the nursery will be three numbers. The first will be the percent nitrogen followed by the percent phosphorus and percent potassium. Since our soils generally contain plenty of potassium, we usually will select a fertilizer product that has the first two numbers with a value greater than zero. Popular fertilizers for the desert include 21-0-0, ammonium sulfate, or 16-20-0, ammonium phosphate. Three or four light applications spread out during the year should do the trick, but if you use a fertilizer that contains phosphorus, like 16-20-0, be sure to scratch it into the soil with a rake to incorporate the fertilizer into the ground. Phosphorus, unlike nitrogen, will not sink into the soil with just water.

There are few insects or diseases affecting Queen's wreath in our area. Most people will just ignore any insect feeding but if holes in the leaves do begin to appear, it is a simple matter to wash them off the vine with a strong stream of water. Washing the plant down is a good idea anyway, particularly after a dust storm, because the heavy foliage does tend to accumulate dust. Keeping the leaves clean helps the vine sunlight into food energy efficiently.

Queen's wreath is a desert-hardy, climbing vine that can perform many tasks in the landscape. By choosing to place it in the right location, providing a solid trellis upon which it can grow, and giving it good care, Queen's wreath offers years of quiet but effective service in the yard. If you have a place where a climbing vine could provide shade, screening, and color, you might just want to give it a try.

If you have questions about this newsletter, have any plant related problems, or wish to have a publication sent to you, please call (520) 836-5221 x204 or (520) 374-6263 and leave a message. If you have a plant problem and are able to email a picture, please send a picture with any information you can provide about the plant, and your contact information to our diagnostic team at macmastergardener@gmail.com and a Master Gardener will contact you.

This newsletter is available to view on our website at: <u>http://extension.arizona.edu/pinal</u>

Richard Subson

Richard D. Gibson Extension Agent, Agriculture

RDG/te/sh/aw

59 mailed copies 262 emailed

