

THE UNIVERSITY OF ARIZONA Cooperative Extension



APRIL 2019 Garden & Landscape Newsletter

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THE CHALLENGE OF THE TECOMA LEAF TIER

While Arizona yellow bells, and its relatives, are favorite landscape plants in Southern Arizona, one of the challenges to keeping them beautiful is the feeding damage of the Tecoma leaf tier, the larva of a moth insect.

About this time of year, and through the summer, we often receive samples of yellow and orange bells, Genus *Tecoma*, with insect feeding damage on the leaves. The problem is relatively new to our area; it was first identified in Arizona back in 2012. However, now that it is a normal and regular event in the life of these beautiful plants, those who have them should keep a close eye out for the damage. If you can catch it early on, there are safe control measures to protect the plant.

Are you familiar with the tecomas? Perhaps we should start there. "Landscape Plants for Dry Regions," by Warren Jones and Charles Sacamano, recommends four separate species of Tecoma for our area. *Tecoma alata* is commonly known as orange bells or orange-flowered tecoma. The Argentine tecoma is *Tecoma garrocha*. *Tecoma stans angustata* is the narrow-leaf yellow bells, sometimes called the narrow-leaf trumpet bush; and the fourth is *Tecoma stans stans*, or the Mexican yellow bells. All are shrub-like plants. They are fairly common in area landscapes, and we like them because they are drought resistant; produce large, showy flowers, and fill an important niche in low water use landscapes. They are, except for the leaf tier, pretty much problem free.

The Tecoma leaf tier is named for the way that the moth insect larva surrounds itself with leaf tissue and then ties it into place with silken threads. Knowing that, it becomes easier to figure out why the name is pronounced the way that it is. The name of the insect is not pronounced tier to rhyme with pier, as in a dock in an ocean, but to rhyme with tire, such as a car tire. Because entomologists and other biologists like to name things in practical ways, the names they give often reflect some characteristic or activity of the animal itself. This fact is definitely true in this case.

Symptoms of leaf tier feeding are varied but, in general, the telltale sign is when affected leaves take on a pale tan color and look like they have been reduced to skeletons. This is true because the leaf tissue has been eaten down to a thin, almost transparent layer that turns brown as it dries out. On some plants, the damage can be fairly heavy with as many as one-half of the leaves showing symptoms. Some leaves will show the folded-over and sealed-with-webbing symptoms.

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The webbing itself is denser than most spider webs and looks like the webbing that other moth larvae spin to provide a protective covering. The webbing is usually speckled with small, black fecal droppings. The name we use to describe these droppings is frass. It is the webbing and the frass that are a dead giveaway for the identity of the culprit. The treatment of first choice for these caterpillars is an environmentally safe and organically approved bacteria-based insecticide called *Bacillus thuringiensis*, or "Bt" for short.

Bt is the active ingredient of a pesticide approved not only by the Environmental Protection Agency but also by organic standards for moth larvae feeding on landscape, ornamental and vegetable plants. It causes a bacterial disease in the larval stage of the insect's development. Once the insect begins to feed on the leaf itself, it picks up the disease organism as it swallows its food. Inside the insect the disease begins to do its work and the animal stops feeding, gets sick, and dies. As a management tool, it is pretty effective and altogether safe for other animals and plants, including humans. Organic growers use it in many different situations against lepidopterous pests and it is a good choice to prevent the feeding damage of these moth larvae.

How often should you apply the insecticide? Well, I know that this may not be too popular but I would recommend that you not make lots of applications each year just to keep a perfect looking plant. Personally, I would make no more than one or two applications each growing season. Considering this, I would watch the plant for the first signs of feeding, make the first application, and then take a "wait and see" attitude before making the next application. Don't get too worried if you see some damage starting back up. The plants can take a lot of feeding damage without significant harm. Apply the next application only if the second population looks like it is going to explode out of control.

Yes, I know what you are going to say. The damage does make the plant look unsightly. While we do want a perfectlooking landscape, there are other considerations. The one of most concern is insect resistance, which can lead to a reduction in the effectiveness of the pesticide products. Because of this, I suggest that it is okay to tolerate some damage to the plant so that we can preserve this important and safe control tool.

Let's stop just a second and underscore that point. Resistance to any type of control technique, including chemical and biological agents, can occur through overuse of a particular pesticide. Here is the common scenario. When we apply any type of control agent to a population of an insect, there will invariably be some of the population whose genetics will allow it to survive the application. The pesticide application will destroy a good part of the population, but there will always be those that survive. As these reproduce through succeeding generations, the resulting new population will carry that same genetic capacity and through time become resistant to future applications of that particular material. That is not a good thing. We avoid resistance by using existing tools, including Bt, wisely and according to label directions.

There is a Bt product that contains the Bt subspecies *kurstaki*. It seems to be a little more effective than other strains against this insect. You will want to use it at the maximum rate allowed by the label. Other insecticides are less effective because of the caterpillar's habit of protecting itself with webbing and folded leaves.

The Tecoma plants can produce lots of color in any landscape, but the leaf tier can be a significant downer for those who love the plant. Careful checking of the plants on a regular basis to search for the first signs of the pest, together the correct application of control options should provide a level of control that will allow the beauty of the plant to shine through.

PINAL COUNTY MASTER GARDENERS

While you were at the Pinal County Fair last week, did you get a chance to speak to one of our Master Gardener volunteers?

If you attended the fair and toured through the display barn, you might have passed by the University of Arizona Master Gardener booth. I hope that you were one of the many to stop and visit with our experienced volunteers. They were there to answer questions about garden and landscape problems, distribute free gardening literature, and talk about the opportunities that they enjoy as certified volunteers. Our volunteers have at their fingertips a wealth of knowledge and experience in growing plants successfully in the desert and helping to solve perplexing garden problems.

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. If this sounds like fun, and you would like to get involved, we would welcome any who might be inclined to join one of our working groups. We will find a project that matches your interest and that will benefit your community.

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.

While some Extension Master Gardener programs around the state 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." Currently there are five working groups countywide including our newest group in San Tan Valley. The other four working groups are Central Pinal County, focusing on Florence, Coolidge, Eloy and Casa Grande; Maricopa, housed at the Maricopa Agricultural Center; SaddleBrooke on the south side and Superstition Mountain in northern Pinal County.

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 **PINAL COUNTY MASTER GARDENERS . . .** CONTINUED ON PAGE 4

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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 Greater Casa Grande Valley working group dedicates many hours in direct support of the local Extension office by duplicating and collating many of the bulletins available for distribution from the office. As we have seen, they also sponsor and staff a booth at Pinal County Fair. In addition, they are available for consultations by appointment in the Pinal County Extension office conference room in Casa Grande.

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. They conduct an open door plant clinic Monday through Friday from 9 am to 12 noon at the Maricopa Agricultural Center

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.

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.

At the fair last week, our Master Gardener volunteers spoke to many of our local neighbors, and also to visitors from other states and Canada. The questions ranged from proper garden vegetable varieties for the desert to tree diseases and other problems. While our soils and growing environment are excellent for growing healthy garden and landscape plants, there is always much to learn and consider in order to keep them performing well and looking good. Our Master Gardener volunteers are trained to help answer those questions and many more.

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

STATELY TREES THAT GROW INDOORS

As you look at your collection of indoor plants, do you feel a need for something a bit more dramatic than a run-of-the-mill creeping charley or a Philodendron?

Plants growing inside homes, offices, and commercial spaces bring a wonderful array of benefits to indoor living. Some of those benefits include eye-catching color and texture, a sense of bringing the outdoors inside, and the freshening of air inside the home. While small potted plants can provide these and other potential benefits, sometimes there is that one spot where a larger plant, something really dramatic, would be absolutely perfect. If this fits your situation, why not consider sprucing up your plant collection with a beautiful and eye-catching tree-sized plant?

The standby of all indoor trees is Ficus benjamina, or the weeping fig. It is sometimes called the benjamin tree. It can grow fairly tall. In Hawaii, some say it can reach up to sixty feet tall outdoors, but in Arizona, growing outdoors it may reach half that size. In containers and growing indoors, it probably will run up to about twelve to fifteen feet in height, depending upon the size of the container in which it is planted. It is kind of finicky in that if it gets moved to a different spot, it tends to lose its leaves. However, it is fairly easy to grow which is why it seems to be a common choice when planted in areas with plenty of space. If the location where the tree will be placed has an eight-foot ceiling or you are simply tired of the common, this tree may not be for you.

Another tree related to the common fig, and which does well indoors, is the fiddleleaf fig, F. lyrata. This fig has a leaf shaped to match its common name with leaves that grow up to fifteen inches long. It does very well in containers when placed in moderate to high light intensity. The leaf structure makes the plant unusual and interesting.

The rubber tree is also a near relative, F. elastica. It is quite tolerant of low light conditions and is not particularly demanding of continual care. Because it is simple to grow, it too is commonly grown as a houseplant in many homes. However, the shape and color of the leaves, dark green with an oblong and rounded shape, make it a favorite specimen plant.

The Norfolk Island pine is a popular container plant that is a conifer, meaning that it bears cones instead of flowers. it is not really a pine in the sense of the other pine trees with which we are most familiar. Its scientific name is Araucaria heterophylla and is located in a totally different family from the common pines. However, it will do well in a container for many years. If the root system is kept constrained in a medium sized pot, it will grow so slow that it can be kept just about anywhere inside.

If you are wanting a tree that during flowering will provide a pleasant odor and maybe even some fruit, consider placing a dwarf citrus in that high light location. They grow slowly and remain small so as to not take over the space allotted, They will need to be next to a large window to receive the light necessary for flowering and fruit production.

Want something more tropical? How about a banana tree? Some people choose to plant dwarf bananas in containers on wheels so that they can be rolled outdoors during the summer months and then back inside when frost threatens. They can also be left indoors year-round. Their large, broad leaves, and their interesting growth habit give them a classy look indoors.

There are four species of yucca which do well indoors. These are the giant yucca, Y. elephantipes; the Adam's needle, Y. filamentosa; the soft-tip yucca, Y. gloriosa; and Y. recurvifolia. Each of them has different characteristics and heights at maturity which gives a great diversity from which to select. If they grow too large, they can be planted outdoors in Pinal County with good results. They bring a sense of the desert inside.

The ponytail palm, Nolina recurvata, has proven to be a good indoor tree when given bright light and not over watered. It also can be grown outdoors in our area. It is distinguished by its tough, grassy-looking leaves and the swelling that occurs at the base of the plant. The feathery appearance of the leaves allows it to bring a light and airy feel to the

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interior landscape. Other palms include the kentia palm, Howea sp., the fishtail palm, Caryota sp., the majesty palm, and the lady palm, Rhapis sp.

The kentia palms have feather-shaped leaves, sort of like the date palm, but much more refined and soft to the touch. They are slow growing, which makes them an ideal container plant. These palms may be the most common palms found indoors. There are two species, H. belmoreana, the sentry palm, and H. forsteriana, the paradise palm.

Fishtail palms also have feather-shaped leaves with large, finely divided leaves made up of leaflets. These look very much like fishtails, from which they draw their name. There are three species, the clustered fishtail palm, C. mitis; the canton fishtail palm, C. ochlandra; and C. urens, the fishtail wine palm. These palms are very susceptible to cold weather damage.

Another palm with feather-shaped leaves is the majesty palm, Ravenea rivularis. The leaves seem to arch upwards. The plant is relatively slow growing and has beautiful leaves. Many people like to choose this species for their own personal use as a potted plant, when they can find one to buy..

The lady palm is a slow-growing tree with fan-shaped leaves growing out of clumps, similar to bamboo. The dark green foliage is a highlight of these palms. Two species exist. One is the true lady palm, R. excelsa, and the other is the rattan palm or slender lady palm, R. humilis.

Speaking of bamboo, I have seen containers full of these plants growing indoors. While not technically a tree, bamboo can definitely fill up a vacant space at various heights, depending upon the requirements set by the growing space provided.

The corn plant is another indoor plant mainstay. There are several species of the genus Dracaena which are included in this group of plants. They usually grow rather tall inside with a long, stout trunk and leaves that arch out from the stem resembling maize or field corn. The dark green foliage can be striking, and many people choose to grow these plants. They require water only when the top inch of soil has become dry, which makes it simple to give them good care..

Larger indoor plants that have the appearance of trees, can provide the observer with the feel of a woodland. In so doing, we bring a bit of the outdoors into our indoor living areas.

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Jeffrey C. Silvertooth, Associate Dean & Director, Economic Development & 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.

LOW WATER SHRUBS WITH COLORFUL FLOWERS

Would a splash of color help liven up your yard?

Various hues of color provided by trees and shrubs can help spruce up a yard and become a visual focal point that quickly catches the eye. There are many trees and shrubs that can fit that bill. Some, like the yellow-flowered and native brittlebush are common in desert landscapes. Others are relatively rare. All, however, produce colorful flowers that provide a pleasing, visual impact.

Because we have spoken in the past about flowering trees, let's focus on shrubs that do not demand a lot of water and have colorful flowers. Knowing that I was going to write this column, I asked a few of my Cooperative Extension colleagues last week for their favorite shrub that fit this description. Let me share theirs first, and then follow up with a few of my own.

The first suggestion was the old standby, red bird of paradise, *Caesalpinia pulcherrima*. It is so common that I am sure that you have seen it if you do not recognize it by name. It can grow rather tall, maybe up to ten feet tall under best circumstances, has feathery leaves, and is topped with flowers that are both red and yellow to yellow-orange. It produces lots of large clusters of what I would call spectacular flowers, and keeps doing it throughout the summer season if they are given an occasional irrigation. The seedpods are poisonous so some people will trim them off as they form. A close relative, the yellow bird of paradise, C. gilliesii, produces mainly yellow flowers, but the color does not jump out at you like the red-flowered form.

Another colleague suggested the red-flowered pomegranate. Its scientific name is *Punica granatum*. I liked that idea because you can also get edible fruit. Most people think of pomegranate as a tree, but if it reaches tree height, it will have been in place, and have been regularly irrigated for a long time. Most pomegranates can, through proper and selective pruning, be kept fairly small. The tubular flowers also attract pollinators and hummingbirds. It will need more water than most low water use plants but the color will be worth it.

Still another colleague mentioned yellow bells, *Tecoma stans*, and its near relative orange bells. I like the *Tecoma* species. I really do, but many people are frustrated with the new insect that has arrived to attack its leaves. It is a moth insect, *Tecoma* leaf tier, and its immature stage is a caterpillar with a voracious appetite. For that reason, I tend to shy away, but the flowers are truly spectacular. If you want to try it, use a natural insecticide, call Bacillus thuriengiensis, or B.t. for short.

I threw out the brittlebush, *Encelia farinosa*, mentioned above, but my suggestion was given little credence because it is so common in landscapes. I like their yellow color and the fact that they will do their thing with little or no water. The down side is that they usually only flower in the spring, about this time of year.

At the conclusion of our conversation, someone mentioned the various species of Asclepias, which is a milkweed. Named for their milk-colored sap, they attract butterflies, particularly the monarchs, which makes them of interest to those looking to attract these animals during their annual movements. There are two species that do well in our area. The first is *A. curassavica*, which is actually native to South America that must be planted each year because it is an annual plant. Its common name is "blood flower" which gives you an idea of the color of the flower. The other species is *A. tuberosa*, or the butterfly weed. Its flowers are orange and it grows back each year from a perennial root.

Now, let's take a look at some other forms, like red sage, *Salvia greggii*. This plant is a small, evergreen shrub that will grow to about three feet tall. It is a local, being native of the Chihuahuan Desert down along the southern Arizona border. It produces brilliant scarlet red flowers and is quite low water use. A variety planted in the Xeriscape Demonstration Garden at the Pima County Cooperative Extension office is named "Cherry Red" which fires the imagination, doesn't it?

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Needing something a little bigger and with larger flowers? Consider the Texas mountain laurel, *Sophora secundiflora*. Because it can reach up to fifteen feet, some might classify it as a tree. However, it can develop multiple trunks with branches and leaves that extend down to the ground if it is left unpruned. Each spring it produces a bunch of clusters of dark lavender, grape scented flowers at the ends of its branches. Because of this, it can take on the appearance of a mound of purple.

Another shrub that produces a mass of color is the yellow-flowered mountain marigold, *Tagetes lemmoni*. Also a plant native to Arizona, it is virtually evergreen, meaning that it keeps its leaves for most of the year. It produces masses of flowers that are about one inch in diameter and have the appearance of a daisy. It flowers beginning in November and keeps doing it until a frost calls the season to a halt.

Little leaf cordia, *Cordia parvifolia*, is another choice. It also produces a lot of flowers and is hardy here in the desert. It can reach up to eight feet high with small leaves. The flowers are white and show up in late spring. If you forget to water it, it will generally not die, which is a good thing. It will lose its leaves however, but once irrigated again, the leaves quickly return.

Many people like the black dalea, *Dalea frutescens*. It grows to about four feet high and produces clusters of bright rose to a purple-colored flower. Once the plant is established, it is pretty drought tolerant.

Other shrubs to consider include Arizona rosewood, Vauquelinia californica; creosotebush, Larrea divaricata; fairy duster, Calliandra eriophylla; Texas ranger, Leucophyllum frutescens; and rosemary, Rosmarinus officinalis.

All of these shrubs are considered low water use, meaning that if you forget to water, or your irrigation system breaks down on you, they will probably be just fine until they get their next drink of water. They generally do not require a lot of attention and are content to do their work with only a little bit of attention from time to time.

If you are considering color for your yard and do not have room for a full-sized tree, consider one of the flowering shrubs to fill that niche for you.

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 <u>macmastergardener@gmail.com</u> and a Master Gardener will contact you.

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

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