

Yavapai Gardens

Master Gardener Newsletter

December 2015 - January 2016



Events & Activities

MG Association Meeting, NO MEETING IN DECEMBER, next meeting Jan. 20 in Prescott. 6:30pm

Alta Vista Gardening Club, Prescott, fourth Tuesday of the month, 12:30pm. Call 928-458-9508 for information.

Prescott Area Gourd Society, third Wednesday of the month, 10:30am, at Miller Valley Indoor Art Market, 531 Madison Ave, Prescott

Prescott Orchid Society, 4rd Sunday of the month, 1pm at the Prescott Library, (928) 717-0623

Prescott Area Iris Society call 928-445-8132 for date and place information.

Mountain View Garden Club, Prescott Valley, Dewey area, 2nd Friday of month, 1:30pm, call 775-4993 for location as it changes.

Native Plant Society Meetings - Prescott. 2nd Thursday of the month, 6:30pm. Attending the talk qualifies as Continuing Education. Non-members are welcome. Highlands Center for Natural History, 1375 S. Walker Rd. (928-776-9550).

The Verde Thumbs Garden Club, Cottonwood 2nd Tuesday, 6:30 pm at The Seventh Day Adventist Church. (928) 634-7172

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Mushrooms for Your Kitchen and Garden By Lori Dekker



The world of mushrooms is entering a new era. In the past gardeners and foodies have considered the mushroom to be a garden novelty or a tasty culinary delight, while a

few of us have an interest in the possible health benefits or the psycho/spiritual/recreational uses of a few of the more famous mushrooms. For now, I'd like to consider the potential health benefits of fungi in your soil and therefore your garden.

When left to their own devices mushrooms, or more accurately fungi, are decomposers and eventually constructors. In a nutshell, they build soil from the raw material of litter and waste found in the garden. Since they digest food outside their bodies, they are essentially "sweating" digestive enzymes and producing waste as they grow through their environment. To put it more simply and happily for gardeners, the fungus breaks down complex compounds into more simple ones that then become available, leaving behind metabolites that can, in turn, be utilized by other microbes. Bacteria or other fungi pitch in to degrade materials even further. It's a great Circle of Life story where the faceless, hardworking fungus and bacteria in your yard work tirelessly, hypha in flagella, to breakdown last year's corncobs to the benefit of this year's crop.

At some level we all know about this "dirty" side of gardening but we don't think about it much, it just happens automatically under our feet. I urge you to bring it forward in your mind and consider the biological tapestry of our soil. Feed and protect the microbes as you would your plants. The fungicides and insecticides we spray our fruit trees and roses may be settling on the soil below, disrupting the busy parade of leftover vegetable peelings devolving into the luscious loam we all crave, if I may wax ridiculously florid.

Consider cultivating edible mushrooms in a very shady spot in your garden, (*Ed. note: don't expect instant mushrooms, it can take 6 months to 3 years.*) or, as in my case, garage. The cool thing about myco-cultivation is that you not only get fresh exotic mushrooms to savor but after your mushrooms have digested their way through the food you provided you can then toss the whole mess into the garden for a fungal second act. You may get a new crop of edibles in a few months or the resident soil microbes may get a boost feeding off the mycelial leftovers. If nothing else, it will blow your kid's minds when you tell them you're growing 'shrooms.

Narrow Leaf Yucca**

By Judy Kennedy, CSU Master Gardener and Native Plant Master



Fantastic vistas, magnificent red rocks and awe-inspiring canyons are a major part of the Colorado National Monument in southwestern Colorado. The native plants which make their home here have to be included in the list of wonders since they a soft accompaniment for the rock. The tenacious foothold of the plants in this arid landscape is to be admired.

Plants that thrive in arid, desert areas always seem able to defend themselves and the Narrowleaf Yucca (*Yucca harrimaniae*) is no exception. This formidable plant has rigid, long, narrow leaves that are sharply pointed and always ready to stab a person or animal who gets too close. Yucca is a bush-like perennial plant, which grows up to 3 feet tall and produces a flower stalk with large, bell-shaped, creamy white flowers. Flowering takes place in spring or early summer.

William Trelease discovered this particular species and named it for the benefactress (Mrs. Edward Harriman) of the Harriman Alaska expedition when the exploring party returned to the continental states and their train stopped at Helper, Utah.

Yucca is a succulent and as such is a relative of cacti. All cacti are succulents, but not all succulents are cacti and yucca belongs to that portion which is "not." It resides in the Asparagaceae family, which is a grouping of plants that includes the agaves and yuccas) that help create the living landscapes of the Southwest.

Yucca is pollinated by a night-flying moth, which lays its egg inside the ovary of the plant and at the same time is dusted by that plant's pollen. Then the moth is off to another yucca to lay another egg and leave the pollen of the previous yucca. Yet the moth has to work to get that pollen to the correct place since the stigma of a yucca is deep within a funnel. The moth will actually stuff the pollen onto the stigma as if it understands that it is assuring a food supply for its developing egg. You can see the tiny hole drilled by the moth in the mature fruit.

Native Americans used portions of the yucca as shampoo, a food source and as medication. The medicinal uses were for the treatment of arthritis and inflamed joints. Also, the plant fibers were used to make baskets, sandals, and rope.

Yuccas can be grown as ornamental plants in water-wise gardens. They provide a dramatic accent to landscape design and tolerate a range of conditions but do



best when grown in full sun. They retain their green coloration during the winter and need little care once they are established. In our arid region they are worth a try but remember to plant them in an area where they won't be a danger to yourself, children, or pets.

** **Ed. note:** They are two very similar yucca with the common name of Narrow-leaf yucca. The other is *Yucca angustissima*. Some people consider them the same species others do not. Also *Yucca harrimaniae* is sometimes called Spanish Bayonet.



I want to say thank you to all the people who have helped with the newsletter this year. I have my steadfast editors and general helpers including Mary Barnes, Pam Bowman, Marilyn Perkins, Lisa Gerber and Deb Grafe. A special thanks to them to sticking it out issue after issue.

Bev Majerus is the Publicity chairperson and she has done a great job of getting people to write articles for the newsletter. The new writers include: Judy Kennedy, Lori Dekker, Ellen Greenblum, Marti Griggs, Pat Carmody, Helen Brown, Steve McIntyre and Deb Grafe. If I missed anyone I apologize, so thanks to the unmentioned out there. I did appreciate everyone's efforts.

There were large group of photographers whose names I don't always know. So thank you to everyone who took a few minutes to shoot some pictures.

Last but not least I want to thank the staff at both Cooperative Extension offices and all the Master Gardeners who give me pretty much free rein to do this newsletter.

Puncture Vine, *Tribulus terrestris*

By Nora Graf, with assistance from Mary Barnes & Jeff Schalau

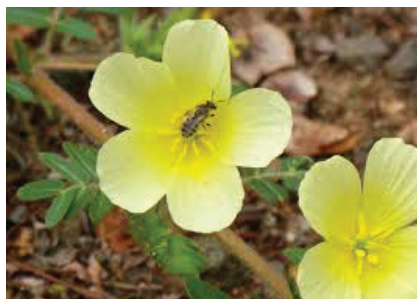


Call it what you want: goatheads, puncture vine, tackweed, bullhead, burra gokhaur, caltrop, cat's head, devil's eyelashes, devil's thorn, devils weed or bindii, it's a nuisance, especially if you like to go barefoot in the yard

or you have it in your pastures. Most people are familiar with it regardless of the name. It is quite common in Arizona, as the plant likes a dry climate, the summer heat and disturbed areas. It is a tap-rooted herbaceous perennial in warm locations and a summer annual in cold climates.

The Latin name comes from a Greek word (which I can't type because I don't have the Greek letters on my keyboard) that means water chestnut, which translates into the Latin word tribulus, which refers to a spiky weapon. Originally it was found in warm temperate and tropical regions that include Australia, southern Europe, Asia and Africa. It probably arrived in the midwestern United States with cattle imported from the Mediterranean area and in California as a contaminant of railroad ballast.

The stems of the plant lie close to the ground (prostrate), usually radiating out forming a circular looking patch. They will grow upward in shade or in tall plants. Stems are hairy and the leaves resemble miniature mesquite leaves, where tiny leaflets grow opposite on a stem. The flowers are yellow and tiny only 4-10mm (1/4 inch to 3/8 inch approximately). The flowers consist of 5 petals. Get up close and they are rather pretty. The fruit is another story; up close and personal usually means a stabbed foot or, for livestock, burs in their mouth. Each flower produces a fruit that dries into about 5 nutlets or burs with 2 to 4 sharp spines each. The name goat or bullheads came about because the nutlets can resemble goat or bull heads. These tiny spines are sharp and long enough to certainly cause damage to flesh but also poke holes into bike, lawn mower and wheelbarrow tires, making them a real nuisance in the yard. In "the wild" the seeds stick to the feet and fur of animals and are disbursed. If you have pets I am sure you have picked out burs from their paws. They can cause serious damage to livestock and can degrade the wool on sheep.



The plant produces a staggering number of seeds, somewhere between

200-5000 seeds in a single growing season and a large plant can produce up to 10,000 seeds. Like most seeds they are very long-lived and persistent, up to 20 years. With that scary thought in mind, what do you do about them?

In your yard pull them up as soon as you see the plants; try to get them before they flower or set seeds. They will not regrow as long as you sever them from the root completely. Mowing or weed-eating is generally not effective because they grow right at the soil surface and mechanical means generally miss them or leave enough of the plant for it to regrow. Using a hoe or shovel is a more effective way to kill currently growing plants but it doesn't do anything for the many seeds that are probably still lying around waiting for the opportune moment.



You can remove seeds in some areas by placing carpet or some sticky material on boards or rollers so when applied to the surface picks up the seeds. In large fields farmers have been known to attach a carpet to a tractor and pull it through the field. It actually works and will reduce seeds on the surface as long as the carpet remains in contact with the soil. The used carpet needs to be handled carefully to contain the seeds, otherwise you just spread them. Applying a 6-inch mulch or synthetic light-excluding fabrics will also help control the plant. Pre-emergent herbicides can be used to control germinating seeds. Plant competing vegetation, like native grasses. They prefer growing in bare areas so a good cover is a deterrent. Use an herbicide with 2,4-D in established areas where you want to retain good grass cover, but not broadleaf plants (2,4-D is a selective herbicide that kills broadleaf weeds and not established grasses).

Some biological controls are available. The puncture vine seed weevil (*Microlarinus lareynii*) feeds on the seeds. Another weevil from Italy (*Microlarinus lypriformis*) feeds on the stems and roots. Scientists surveyed a number of countries between 1957 and 1959 looking for natural enemies of the plant. The two weevils were selected as potential candidates. They found that the weevils did feed on a variety of plants but reproduction was only pos-



sible on puncture vine and a few other related plants. The decision was made that the potential good was greater than the potential loss of native plants. Both weevils were approved for use in the United States. Import-

ed weevils from Italy were released in fields in California, Arizona, Colorado, Nevada, Utah and Washington in 1961. The weevils flourished and spread in many locations. Further studies showed that the eggs of the weevils sustained heavy predation from local Hymenoptera (sawflies, bees, wasps and ants). In spite of that the long-term impact the weevil was considered successful with a reduction in the production of seed.

In a home situation, simply removing the vines as soon as you see them and mulching is the easiest and best control method. Using the weevils may help reduce the number of plants over time if you have pasture or acreage. Sources recommend releasing 250 weevils per acre if you have a moderate infestation; twice that amount if the problem is severe. Just remember they only feed on green plants and seeds. Any dried seed lying around is not affected and under the right circumstances will germinate. Temperature is also a problem for the weevils; they start dying between 15 and 20 degrees and in many locations may not over-winter. Weevils can also fly up to a ½ mile so if you don't have any fresh plants for them they may move somewhere else. There are a number of sources for the weevil, see listings below. The weevils are not miracle-workers; it will take a couple of years to see much of a difference. Biological control agents never completely eradicate their host species – eating all the food is not a good long-term survival strategy.

For more information: <http://www.faculty.ucr.edu/~legneref/biotact/ch-88.htm>

Weevil Sources

Arbico
10831 N. Mavinee Dr Ste 185
Oro Valley, AZ 85737
800-827-2847

<http://www.arbico-organics.com/product/puncturevine-weevil-Microlarinus-lareynii-Microlarinus-lypriformis/natural-organic-weed-control>

California AG Supply
559-221-7954
Email: info@californiaagsupply.com
<http://californiaagsupply.com>

Goatheads.com
www.goatheads.com
(541)922-4515
PO Box 167
Umatilla, OR 97882

Farewell



After 25 years in Yavapai County, I am leaving to return to the Pacific coast. My husband and I will be leaving early in November for western Washington, south of Tacoma to be closer to family. So to all my Master Gardener friends, I want to say Farewell and Best Wishes. I have so enjoyed being part of this gardening community, and I have learned so much about plants in the Southwest. Now I'll get to re-learn the plants of the Northwest!

As part of the Master Gardener program, I have had the opportunity to be involved in many volunteer events, all of which I have enjoyed. I have worked on MG projects and committees, served on my homeowners' association Landscape Committee (overseeing common areas in our subdivision), written articles, given presentations, and learned a lot through the continuing education opportunities the MGA has presented. I'm very grateful

I've had this opportunity, and I may pursue more Master Gardener work in Washington.

But most of all, I've enjoyed interacting with all my fellow Master Gardeners, and I will miss you.

Fondly, Joy Inman, class of 2008



Gold Poppies Galore

By Nora Graf

Eschscholzia californica, *E. californica subsp. mexicana*



California poppies became the official state flower of California in 1903 beating out the less common Mariposa lily. They also happen to be one of the most reliable bloomers throughout Arizona. For home landscapes it is one of the best wildflowers you can plant.

This is a highly variable plant that scientists disagree on. Some believe there are two subspecies with several varieties; others do not. One of the subspecies is the Mexican gold poppy (*E. californica subsp. Mexicana* or sometimes *E. Mexicana*), which is

found in the Sonoran desert. The Mexican gold poppy is more yellow in color and is two toned with the center being a darker orange and has no rim or an inconspicuous rim under the flower. California poppies are more orange and are more uniform color and have a prominent ring or rim underneath the flower.



Mexican Gold Poppy

The name *Eschscholzia* came by way of the German botanist Adelbert von Chamisso who named it after the Baltic German botanist Johann Freidrich von Eschscholtz. Eschscholtz and Chamisso had traveled together on a scientific expedition to California in the mid 1810's.

California poppies are very drought tolerant and easy to grow. They are usually considered an annual that



bloom early in the spring into May depending on rainfall but can also be a perennial. The leaves are fern-like and soft. Full sun and sandy well-drained poor soils are preferred. It seeds prolifically. The plant can found in elevations up to 6500 feet. Over time horticulturists have developed plants with a variety of colors. They do not breed true so next years seeds may not produce the same colors. You just don't know what you will get.

Native Americans used the plants medicinally and the pollen was used as a cosmetic. Seeds were used in cooking. Extracts of the plants have a mild sedative effect when smoked. While sometimes confused with opium poppies these plants have an entirely different class of alkaloids in their tissue.

In some areas where the plant has been introduced including Australia, the Mediterranean, South Africa, Chile and Argentina. It has naturalized widely. The plant was introduced in Chile in the mid 1800's and the early 20th century as an intentional ornamental plant and by accident in alfalfa seed from California. The Chilean populations seems to really like their environment as they have been found to be larger and produce more seed. It is thought that a lack of competition and no natural enemies allows it to grow to larger sizes. Unfortunately in its native southwest it is being crowded out by exotic plants like mustard and annual grasses.

Arizona Poppy, Kallstroemia grandiflora



These are not related to the California poppy, they are a different genus, even a different family (Californias are in the Papaveraceae family while Arizona is in Zygophyllaceae, sometimes known as the creosote-bush family. Hey you don't get to pick out your relatives!) It is also known as Caltrop or Summer poppy. The flowers look remarkably alike especially from a distance, but take a

closer look and the differences become obvious.

It is a summer annual and grows in many of the same areas the California poppy does. It likes sandy, well-drained soil, full sun and in the garden will do better with some regular watering. Arizona poppies are the offspring of the monsoons. If you see something that is blooming in the summer and fall, July through October and you think it's a poppy it's probably the Arizona. The flowers are about 2 1/2 inches wide and have 5 petals with raised orange veins and dark red-orange at the base of the petals. It reproduces by seed and some years you may see it and then not



the next. The seed does remain viable for at least three years. The structure and leaves of the plant are completely different also. The Arizona is a shrubby 3-foot sprawling

plant with leaves that are pinnately compound. Think of puncture vine (which it is also related to) or mesquite tree leaves. The stems are hairy with no thorns.

The pollen may be an eye irritant. The Spanish name is mal de ojos or sore eyes.

This plant turns out to be pretty interesting when it comes to insects. It has no scent but at least 46 different insects visit it. Visitors include bees, wasps, butterflies and flies. Insects get direction to the pollen and nectar via ultra-violet reflecting patterns on the flowers. Certain groups of insects do different things. One group avoids the anthers and stigmas because they are too small, while another group including honeybees and wasps extract nectar under the flower. A third group gathers pollen and nectar from the flower serving as a pollinator. Scientists speculate that the non-pollinating visitors reduce the quantity of nectar so the pollinating insects have to visit more flowers to get all the nectar they need.



Both of these plants will grow in your desert landscape and you would have that wonderful orange-gold color nearly all summer long.

California poppy seeds are available almost everywhere flower seeds are sold. For Arizona poppy seeds:

Plants of the Southwest

1-800-788-7333

www.plantsofthesouthwest.com



Meet a Master Gardener - Karen Auster Miller

by Marti Griggs



Becoming a Master Gardener was a long time aspiration for Karen Auster Miller. In 2013 she finally achieved that goal and has since enjoyed being involved in the program. She chaired the Arizona Highlands Garden Conference, helped staff the holding area at Monsoon Madness, volunteers at the Help Desk and will serve as President Elect for the organization in 2016.

Gardening has been a lifelong interest for Karen. She grew up in rural Wisconsin helping her father in the apple orchard and picking veggies and berries from her mother's garden for sale to local grocery stores. The family was an adherent of the farm-to-table movement long before it became trendy.

After spending thirty-five years in Phoenix, working as a program manager in the aerospace industry, she and her husband moved to Prescott about five years ago. They built a home in Williamson Valley with plenty of room for horses and gardens.

Landscaping is getting underway with a plant pallet copied from what she saw flourishing at Talking Rock golf course, and includes a wildflower area, butterfly bushes (*Buddleia* spp.) and milkweed (*Asclepias* spp.) to encourage monarchs. While she hasn't yet erected a fortress for her vegetable garden, which would be required to keep the critters at bay, she has built a raised asparagus garden and found a good space for a small apple orchard.

When not gardening she can be found driving along the roads with her horse and carriage, at a carriage driving competition or horseback riding on the trails around the Prescott area. In the late 90s she got her pilot's license and joined her husband, a retired commercial pilot, in a passion for flying in their American Champion Scout airplane. They belong to an organization of volunteers who maintain and preserve backcountry and recreational airstrips and love just popping into far flung airports for breakfast with other flying enthusiasts. Karen is also in her second term as a member of the Williamson Valley Fire District Board.

When asked if she had any advise for new Master Gardeners, Karen said, "Don't be afraid to try things ... there are excellent guidelines on most all activities that can help." One of the things she most likes about the MG organization is the tremendous teamwork among members and the continued learning and research that is available through the various activities.

University of Arizona Horticulture Tours

The UA Campus Arboretum has on-campus tours available throughout the school year. They include subjects like history, trees, edible landscapes, medicinal plants and seasonal blooming tours. If you are in Tucson, you might want to schedule a tour, it could be interesting and fun.

For more information: http://arboretum.arizona.edu/tree_tours

To see the calendar of events: <http://arboretum.arizona.edu/calendar-tour/month>



2015 Newsletter Deadline Schedule

The newsletter comes out every two months. The list below shows the issues, when they will be published, (the day they will be available or close to it) and the deadlines. If the article is time-sensitive, please let me know ahead of time but please get it to me by the deadline. There is a lot more latitude to the short announcements (a few lines) and if you let me know in advance something is coming I can be a bit flexible about things.

Issue	Publish date	Deadline
Feb-March	Feb 1	Articles Jan 5, short announcements Jan 25
April-May	April 1	Articles Mar 5, short announcements Mar 25
June-July	June 1	Articles May 5, short announcements May 25
Aug-Sept	Aug 1	Articles July 5, short announcements July 25
Oct-Nov	Oct 1	Articles Sept 5, short announcements Sept 25
Dec-Jan	Dec 1	Articles Nov 5, short announcements Nov 25

FROM THE EDITOR: Please send or email articles and announcements to the address below. All articles must be in my hands by the 5th of the month. Short announcements (no more than 2 or 3 lines) will be accepted until the 25th.

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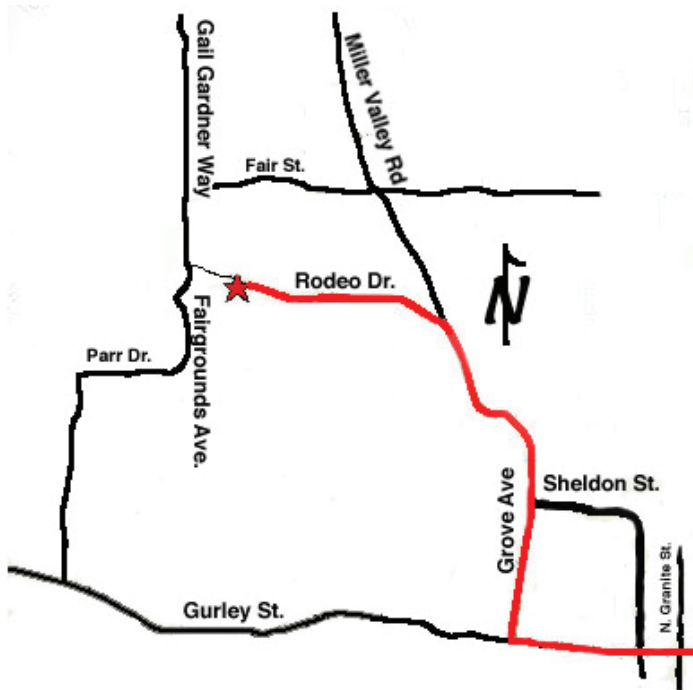
MG Desk (928) 554-8992

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MG NEWSLETTER



Next Meeting

There is NO MEETING in December, the next meeting will be in Prescott in January.

The Prescott meeting is held at the Extension office on Rodeo Dr.