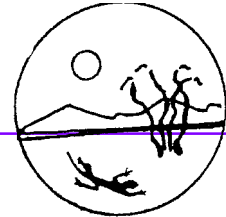


High on the Desert

Cochise County Master Gardener

Newsletter



The University of Arizona and U.S. Department of Agriculture cooperating.

Cool Agaves, Cacti, Yuccas, and Other Fun Plants for the Garden

This month we will focus on the “accent plants” for the garden. These plants provide a bold statement in the garden and look wonderful planted among desert plants. As an added bonus most of these plants do well and look great in clay pots and can be moved around the garden.

In the ground they require rainfall only needing supplemental irrigation during a long spring/summer drought period. In containers I find they only need watering two times a month during the hot weather and once a month in cool weather.

Please remember that many of these plants are protected by Arizona Native Plant Laws. Ensure plants are grown by seed or have been salvaged and tagged with Arizona Department of Agriculture tags. For more on native

plant laws see the website at <http://agriculture.state.az.us/PSD/nativeplants.htm>

Agave americana var. *mediopicta*

Agave chrysantha

Agave colorata

Agave ferdinand-regis - container plant/not hardy in High Desert

Agave harvardiana

Agave lechuguilla

Agave murpheyi - container plant/not hardy in High Desert

Agave parryi var. *huachucensis*

Agave parryi var. *neomexicana*

Agave parryi var. *truncata*

Agave parrasana

Agave palmeri

Agave parryii

Agave scabra - container plant/not hardy in High Desert

Agave schottii

Agave sisalana - container plant/not hardy in High Desert

Agave victoriae-reginae

Agave weberi

Agave vilmoriniana - container plant/not hardy in High Desert

Euphorbia antisiphilitica - Candelilla

Fouquieria splendens - Ocotillo

Hesperaloe funifera - Coahuilan Hesperaloe

Hesperaloe parviflora 'Red'

Hesperaloe parviflora 'Yellow'

Hesperaloe nocturna

Opuntia basilaris - Beavertail Cactus

Opuntia macrocentra

Opuntia santa-rita x *basilaris*

Opuntia santa-rita 'Tubac'

Yucca aloifolia - Spanish bayonet

Yucca baccata - Banana Yucca

Yucca recurvifolia - Pendulous Yucca

Yucca rigida - Blue Yucca

Yucca schidigera - Mohave

Yucca

Yucca schottii - Mountain Yucca

Yucca thompsoniana - Thompson Yucca

Cheri Melton
Master Gardener



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Lions, Tigers, and Bears, OH MY!

PART 3: OTHER CREEPY CRAWLIES

This is the last in a series of articles about creepy crawly varmints that you may find in your garden here in the High Desert. The first article dealt with venomous snakes and the second dealt with spiders and scorpions. Most of the varmints that will be discussed in this article are entirely harmless.

I love watching my three Scotties spending countless hours attempting to capture the numerous lizards that thrive around my house. I often hear their high pitched hunting yips as they probe through the rocks with upright tails wagging in excitement as they futilely try to find the elusive lizard. My home has a plethora of lizards of all kinds. Perhaps the reason for this is that I provide an ideal environment for them. I have rock landscaping near my home's foundation which provides plenty of hiding places for the little guys. I seldom use pesticides around my home. I kind of feel like if all the critters are thriving both inside and outside my home than I am living in a much healthier environment. The lizards are a welcome addition in this nontoxic environment as they keep the populations of unwelcome varmints down. The kinds of lizards present in our local area are too numerous to discuss here; please consult the Audubon Society's *Field Guide to the Southwestern States* for descriptions and pictures.



I have recently seen the return of the horned lizards to my little piece of paradise. When I first moved to the Huachucas, I, like most everyone else, engaged in ceaseless chemical warfare against ants. Perhaps that was the legacy of my growing up in the South where imported fire ants are a very painful problem. So I engaged in a chemical holy war against any ant mound found in my yard. Even the admonitions of my younger brother (he is younger anyway), an environmental chemical engineer could not deter me. Then one day while talking about the singular wonders of the Southwest with a female co-worker (a rather rare bird—an Arizona native!), I had an epiphany—an awakening to the error of my ways. She was lamenting how the population of many species of the horned lizard has so declined in the local area since her childhood. The most likely reason, in my mind, was the destruction of habitat and elimination of food sources. I remembered back to my childhood and visiting family in Texas and watching a horned lizard resting conveniently near an ant hill and feasting on any ant that ventured too close. So now I am much more tolerant and don't nuke the ants just because they dare to live in my space. I will dispatch those who get in my house however (I don't go into theirs so fair is fair). My reward has been the welcome return of these desert natives to my land.

I have also tried to make it a point to become more educated about the natural world and to become more tolerant. Who among us does not marvel at the delicate

beauty of the butterfly as it flits about in our gardens. Well, folks they come from those nasty creepy crawly caterpillars that we love to hate. I try now to physically remove them and place them in plants that are less delicate rather than blasting them incessantly with toxic chemicals. I also expect damage to plants and accept it as part of the natural cycle. If you want perfection, stick with plastic or silk flowers. Caterpillars themselves can be a thing of beauty (I draw the line at the tomato hornworm—yuck!). However even the repugnant tomato hornworm changes into the sphinx moth which I delight in watching feed in my garden as it flies about in hummingbird fashion.

Even millipedes and centipedes no longer threaten as I know the difference. I have learned that not everything that looks threatening is actually dangerous. The giant vinegarone is a great example. With those big pinchers and whiptail, it presents a foreboding image. Nevertheless, it is quite harmless and just another example of the tremendous biological diversity in this magical place we call home.

So friends, a little education and tolerance for our insect and animal neighbors can go a long way in helping us to live in harmony with the natural world. You simply don't want your home listed on the federal government's superfund list or find out on the evening news that the pesticide you have been overusing has been found to cause brain damage in laboratory animals. (I don't know about you, but I can't afford to lose any of my very limited supply of brains.)

*John Phillips
Master Gardener*

Cuttings 'N' Clippings

► Cochise County Master Gardeners Association will resume their monthly meetings on September 6 at the Sierra Vista Library from 5:00 - 7:00 p.m. The guest speaker is Lee Basnar, Chairman of Sierra Vista Environmental Affairs Commission, speaking on the work of the commission.

► The High Desert Garden Fair will be held at the University of Arizona South Campus September 16. For more details see the back page of this newsletter. Plan to stop by. There will be lots to see and do!

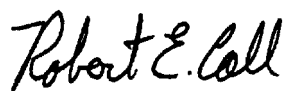
► The Fall Xeriscape Garden Tour is set for September 23 from 9:00 am until 1:00 pm. For details and a map contact the Sierra Vista Cooperative Extension Office (458-8278, Ext. 2141).

► Check out the Master Gardener web site:

www.ag.arizona.edu/cochise/mg/index.htm

for information on the Western Region Master Gardener Conference October 14 - 16 at the Mesa Conference and Community Center, Mesa, AZ (tel #602-470-1556, press 1017). It is open to the public.

► Now available on our web site *Ask a question* and *Frequently asked questions!* Check it out!!!



Robert E. Call
Extension Agent, Horticulture

Carolyn Gruenhagen
Editor

Baffling Bats

Have your daytime hummingbird feeders turned into evening bat feeders? If so, enjoy the show! The migration of two species of nectar-feeding bats—the Lesser Long-nosed Bat and the Mexican Long-tongued Bat—are traveling from the Sonoran Desert back to their Mexican wintering grounds. They arrive in Arizona in April to roost in caves and mine shafts. Females spend April through July in areas with flowering saguaros and organpipe cactus. Their young are born in May or June and can fly by July or August. The maternity colonies break up and adults and juveniles begin to move south through the semidesert grasslands to forage on agave blossoms.

Agave blossoms, particularly those of *Agave palmeri*, have a strong, putrid smelling scent to attract bats. The flowers start to open and release the strongest concentration of nectar around 10 p.m. A large amount (a teaspoon) of dilute nectar is produced and is about 20% sugar. Although the bats do not collect pollen, it becomes attached to their fur while foraging and is ingested while grooming. Proteins from the pollen are an important part of their nutrition.

Studies have shown that bats are important pollinators of agaves, especially *Agave palmeri*, which are native to our high desert region. This is called a “bat-agave symbiosis,” meaning over the years the bat and the agave have developed a special relation with each other. The bats cannot make their southward journey without the energy providing nectar of the agave. The agave cannot set seed

without being pollinated by the bats. The flowering season is a wave of nectar starting with *Agave palmeri* in Arizona through Sierra Madre. *Agave shrevei* provides nectar for Southern Sonora and Chihuahua, Mexico. Found through Durango and Zacatecas, Mexico is *Agave durangensis* which flowers in November and December. South of this region is a group of winter blooming agaves that feed bats migrating to Central America. This shows a strong migratory pathway of bats and a nectar corridor that has mutually evolved.

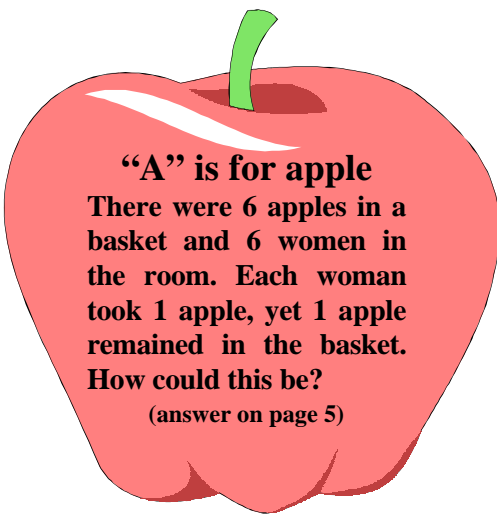
Unfortunately, breaks in this migratory chain have occurred possibly due to agave harvests in Mexico for the liquor industry. Also, the reduced populations of desert plants in Southeastern Arizona due to development may be negatively affecting the species. Bat populations are also threatened by loss of suitable mine and cave roosting habitat and disturbance to maternity roosts. Currently the U.S. Fish and Wildlife Service list the Lesser Long-nosed Bat as an endangered species. *The Threatened Native Wildlife in Arizona* lists the Mexican Long-tongued Bat and the Lesser Long-nosed Bat as threatened species.

Bats feeding at hummingbird feeders may be doing so to ensure that they have the energy needed to migrate to the next nectar-feeding source on their long journey south. Feeders may be taken indoors at night or covered to prevent bats from visiting. Better yet, plant some agaves in your garden to help conserve the agave/bat population.

Cheri Melton
Master Gardener

September Reminders

- ✓ Keep on watering!
- ✓ You can always plant something—try cool season veggies
- ✓ Start shopping for bulbs (*Bulbs for Southern Arizona* bulletin is available from the Cooperative Extension offices)



Call's Classic Comments

Are the leaves of your cucumber, pumpkin, or squash plants discolored and distorted but show no signs of insect damage? It appears your cucurbits (squash and melon family) have been infected with a virus. Plants have mottled leaves, that is patches of green and yellow, often in varying hues, mixed in the leaf. Whole plants and leaves are usually smaller than normal and many times deformed and fragmented. Cucumber, melon, and squash fruit

are also small, stunted, and unusually colored. The fruit can even be bumpy and have warts!

There are several different viruses that infect this family of plants. They include: cucumber mosaic virus (CMV), squash leaf curl virus (SLCV), squash mosaic virus (SQMV), watermelon mosaic virus (WMV), and zucchini yellow mosaic virus (ZYMV). Each of these pathogens usually have several strains. Sometimes an infected plant may have more than one virus causing the symptoms. Therefore, it makes an exact diagnosis difficult without laboratory analysis.

Viruses cannot survive outside of living organisms. They may be present in seeds when planted. This occurs with SQMV. Insects serve as vectors (transmitting agents) for many viruses. Sucking insects like aphids and white flies and chewing insects such as cucumber beetles and grasshoppers transmit virus particles from infected plants to healthy ones.

Control: When virus resistant varieties are available their use is advisable. Control host plants such as related weed species and infected crop plants which serve as reservoirs of viruses. Destroy these plants as soon as symptoms appear. Control insects which transmit viruses. I know of no chemical or natural cures for viruses in plants. In many cases plants will survive in a weakened state much like what happens to humans when we get a viral flu or cold.

Source: September 1993 *Cochise County Master Gardener Newsletter*

Robert E. Call
Agriculture Agent, Horticulture

The Virtual Gardener— Arizona Native Plant Laws

In her article on agaves, cacti, and yuccas in this newsletter, Cheri Melton mentions Arizona native plant laws. Since many people are not familiar with these laws, I thought that this might be a good topic for this month. The definitive source for information about on this topic can be found at the URL listed in Cheri's article (<http://agriculture.az.us/PSD/nativeplants.htm>).

Arizona native plant law, contained in Chapter 7 of the Arizona Revised Statutes, was enacted to safeguard endangered native plant species and to prevent unbridled exploitation of other Arizona native plants. Arizona has a large variety of valuable plant species such as cacti sought by collectors around the world. Without some restraints on the commercial harvesting and export of these plants, we would soon find these them disappearing from the wild. Although unrestricted commercial harvesting could lead to disaster in a short period of time, even collecting by individuals who only want to collect a single specimen for their own yards poses a threat over the long haul.

Protected native plants are grouped into five different categories, each with its own restrictions:

Group 1 includes highly safeguarded native plants that are in danger of extinction or are likely
(continued on next page)

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to become jeopardized in the foreseeable future. These plants may only be collected or salvaged by scientists or other officials who obtain special permits from the Arizona Department of Agriculture. The protection of these plants extends to seeds and fruits as well as to the plants themselves. In fact, the law also prohibits even the destruction, mutilation, or cutting of these plants. The list of highly safeguarded native plants includes 44 different species from 18 different plant families. Two of the agaves species on Cheri's list *Agave murpheyi* and *Agave schottii* (var. *treleasei*) are on this list.

Group 2 includes salvage restricted native plants. Although these plants are not in immediate danger of extinction, they are protected because there is a high potential for damage by theft or vandalism. Plants on this list may only be taken from the original growing site by a person having a valid permit issued by the Arizona Department of Agriculture. If the plant is growing on privately owned land, the collector must also have the written permission of the land owner. Seeds or fruits, but no living parts, of plants on this list may be collected from state-owned lands without a permit or on privately owned lands with the permission of the owner. Before collecting anything from Federal lands, check with the Federal agency under whose jurisdiction they fall. State laws and regulations may not apply on Federal lands.

The list of salvage restricted plants includes 303 species from 32 different plant families. The largest number of species comes from the cactus family with 124



different species. Ten of the plants on Cheri's list are on the restricted list. These

include *Agave chrysantha*, *Agave parryi* (var. *huachucensis*), *Agave palmeri*, *Agave schottii*, *Fouquieria splendens*, *Opuntia basilaris*, *Opuntia macrocentra*, *Yucca baccata*, *Yucca schidigera*, and *Yucca schottii*.

Group 3 includes salvage assessed native plants. To harvest these plants you must also have a permit and tag the plants with salvage tags. This list is fairly short, containing only ten tree species from two plant families, including desert willows (*Chilopsis linearis*), palo verdes (*Cercidium* sp.), mesquites (*Prosopis* sp.) and the smoke tree (*Psoralea argemone*).

Group 4 are harvest restricted plants which must be protected from overharvesting because of their intrinsic value. The list includes eleven species from two different plant families. Trees on the list include ironwood (*Olneya tesota*) and several mesquites (*Prosopis* sp.). Other plants on the list include plants that are harvested for their fiber (*Nolina* sp. and *Yucca* sp.)

Group 5, the last group, are export restricted plants. These plants are endangered by over depletion if their exportation from the state is not controlled.

We'll continue our discussion of Arizona native plant laws next month. Until then, happy surfing.

Gary A. Gruenhagen, Master Gardener
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Fall Xeriscape Garden Tour

The fall xeriscape Garden Tour is set for September 23 from 9:00 a.m. until 1:00 p.m. Featured will be three gardens, one just about one year old. The backyard is an "Outdoor Room" with a fireplace built into the corner with a sitting area. The existing mesquites have been incorporated into the landscape and the yard is designed to attract guests—including butterflies and birds. The second yard features mature cacti and succulents. This seven year old yard is not on drip yet it sculpts with texture and shape. The third yard blends desert with urban. In town, this yard soothes the eye with mature shade trees, functional meandering riverbeds dotted with wildflowers, lantana, rosemary and trailing indigo bush.

Call the Cooperative Extension Office in Sierra Vista (458-8278, Ext. 2141) for a map and details.

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COUNTY FAIR TIME!!!

Cochise County Fair is September 28 - October 1 at the Douglas Fair Grounds. Fair books are available at the Cooperative Extension offices and the Chamber of Commerce of each County city.

ANSWER: "A" is for apple — The first 5 women each took an apple. The 6th woman took the basket as well as the apple in it.

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The University of Arizona Cooperative Extension presents . . .

High Desert Garden Fair

- ▶ Farmer's Market
- ▶ Local Nurseries
- ▶ Garden Crafts
- ▶ Outdoor Living
- ▶ Books
- ▶ Irrigation
- ▶ Information on:
 - Forestry
 - Wildlife
 - Water Wise*
 - Recycling
 - Gardening
 - Sustainable Systems
- ▶ Seminars on:
 - The Winter Garden* (9:30 am)
 - Preserving the Edible Garden*
(11:00 am)
 - Autumn Beauty: Plants for Year*
Round Interest (12:30 pm)

Saturday, September 16, 2000
University of Arizona South Campus
1140 N. Colombo, Sierra Vista, AZ
9:00 am - 2:00 pm



All for free!

Plus lots more!!!