



High on the Desert Cochise County Master Gardener Newsletter

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Gardening in water Get your hands wet with Angel

Potting Up Aquatics

For the water garden it is best to keep plants in submerged containers. Planted in the bottom soil, most aquatics would either take over the pond or get choked out by more aggressive species. Container planting allows plants to be easily moved and confines invasive species. This month's topic is how to pot up aquatic plants.

There are several types of aquatic pots available. Keep in mind the most important goal is to confine the soil because spilled soil will dirty your pool and give nutrients to the algae. The mesh-type containers are called "laundry baskets." These containers are available in square

or round styles. They have to be lined with untreated burlap. This has to be done to keep in the soil, but eventually the roots will find their way into the pond. This makes them unattractive to me. I personally prefer containers without holes. For the water gardener who keeps a "clean pond," few nutrients are available to the wandering roots of an aquatic plant outside of its container. Consider that if a pond is free enough of excess nutrients to prevent the growth of green water algae, how many nutrients can be present for higher plant forms?

Most aquatic plants such as water lilies or marginal plants grow from water-saturated soil from which they get their

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food. They need to be fertilized with special pond fertilizer tabs. These are available in aquatic shops or some hardware stores. Standard terrestrial pots with drainage holes can be used, but the holes in the bottom should be plugged up with stones, untreated burlap, or pond liner. That keeps soil and fertilizer contained. Using black or dark green containers lessens their visibility. Since most aquatics are shallow rooting plants, select wide mouthed containers that are wider than they are deep.

The most commonly recommended soil for planting aquatics is "heavy garden loam." This term can mean different things in various parts of the country. Here our heavy clay mixed with builders sand is just right. Do not ever use potting mix as it is too light and full of nutrients. Being light, it can float out the pot and having nutrients it will feed the algae and cloud the water. Fill some of your loam mixture into your pot, place your fertilizer tabs, add some more loam, then place your plant and give it some more loam. Now add a layer of sand, about an inch, and finish it off with gravel. The gravel should be river rock and needs to be washed well. The gravel keeps the soil and the plant in the pot

and functions as a biological filter because it gives the nitrifying bacteria a place to hold on to. In case you have fish, especially Koi, it helps to prevent uprooting. The bigger the fish, the coarser the gravel. After potting and before placing the pot in the pool, wet down the soil to remove all air and to avoid "bubbling out." It is advised to place the pot into the pond gently. Water lilies can be placed on the bottom of the pond. Marginals do better with no more than one or two inches of water over the crown. Once a year the plant should come out of the pond and the soil should be renewed and fertilizer added. You will see after one year the soil is black mud and smelly. Also water plants grow fast and need to be divided. Have fun with your water garden.



Plant of the month: HORSETAIL – *Equisetum hyemale*

A native species here in Arizona. It can be grown inside or outside the pond. Keep in mind outside the pond it is very invasive and it can take over your garden. It can take some drought and is very difficult to get rid of. It is better confined to a pot. The hollow stems are green with black bands that give it a bamboo-like appearance.

Angel Rutherford, Master Gardener

Cuttings 'N' Clippings

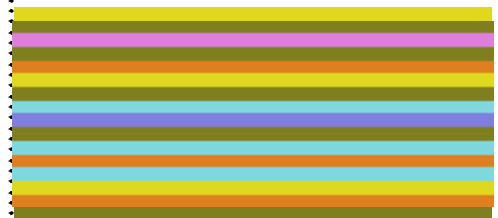
* Saturday, May 4 from 9:00—10:00 a.m. a free *Water Wise* Workshop will be held at the University of Arizona South called ***When Do I Water?***

* Also on May 4 from 9:00—1:00 p.m. a self-guided low water landscape **Xeriscape Tour** will be held sponsored by the Cochise County Master Gardeners and *Water Wise*. Call the Cooperative Extension Office for a map. This is also a free activity and open to the public.

* Cochise County Master Gardeners will meet May 8 from 5:00-7:00 p.m. at the Sierra Vista Library.

* The Bisbee Bloomers will hold a garden tour on Saturday, May 11 beginning with a 9:00 a.m. lecture on butterfly gardening at 47 Wood Canyon. At 10:00 a.m. a self-guided tour of 9 gardens in Old Bisbee, Warren, and San Jose will begin. Maps are available for a small fee from the Bisbee C of C, the Southeastern AZ Bird Observatory, or by calling 432-8073.

* The June 1 *Water Wise* workshop is ***Lawn-B-Gone and Native Grasses*** with Jim Koweek of Diamond JK Nursery, Sonoita, AZ. The free workshop takes place at the University of Arizona South, 1140 N. Colombo, Sierra Vista at 9:00 a.m.



Robert E. Call

Robert E. Call
Extension Agent, Horticulture

Carolyn Gruenhagen
Editor

• NOTICE •

This will be your last Cochise County Master Gardener Newsletter unless you have completed and forwarded an update form to the Willcox or Sierra Vista Cooperative Extension Offices by the end of May 2002. Call the Willcox or Sierra Vista office for information. You may also sign up electronically on our Web Site: www.ag.arizona.edu/cochise/mg/

The Virtual Gardener—A Rose by Any Other Name

As everyone knows, most plants have both a common name and a scientific one. The scientific names are preferred by botanists because unlike common names they uniquely identify a plant and are part of a large classification system that shows family relationships between plants. Many people are put off by the scientific names because they are unfamiliar and are sometimes difficult to pronounce. It somehow seems easier to say “mesquite” (now there’s a nice Anglo-Saxon name for you!) than *Prosopis glandulosa* or “Prickly Pear” rather than *Opuntia phaeacantha*. What you may not know, however is that there is a rich and interesting history behind many of the scientific names.

Before we discuss some of those interesting names, we need to briefly talk about how plants get those names in the first place. The scientific naming system we use today was developed during the 18th century by the Swedish botanist Linnaeus who developed a system that gave every plant two names a *genus* name and a *species* name. You might think of the species name as the given name of the plant and the genus name as the family name. The botanist who first publishes the description of a newly discovered plant has the honor of naming it. If the plant fits into an existing genus, the botanist can only invent a species name. Otherwise the botanist can invent both a new genus and a new species name.

The names themselves are usually derived from Latin or Greek roots or are Latinized versions of words from other languages. Sometimes the names are purely descriptive and sometimes they are based on the names of people (often the botanist who discovered the new plant).

Michael Charters, an amateur botanist from California, has put together a Web site (<http://www.calflora.net/botanicalnames/index.html>) containing an extensive list of the names and meanings of plants of Southern California. Since Southern California and Southern Arizona have many native plants in common, Michael’s list provides a resource for us as well. His brief biographical sketches of the botanists whose names have become immortalized as plant names are particularly interesting. Here is a sampling.

Apache Pine (*Pinus engelmannii*): Named after George Engelmann (1809-1884), a German-born St. Louis physician and botanist, and prolific author on cacti, North American conifers and oaks. Like many other famous botanical explorers and collectors, he began his career in medicine, but soon was spending more time with his plants. He became a conduit between plant collectors in the West and professors John Torrey and Asa Gray in the East. He sent out fellow Germans like Augustus Fendler to explore little known western regions, supplying them with collect-

ing materials and money. John C. Fremont visited him to learn about plant collecting before embarking on his western explorations. He botanized with Charles Parry in Colorado and with Asa Gray in Virginia. His association with the Englishman Henry Shaw, who resided in St. Louis and dreamed of building a Kew Gardens in the New World, resulted in Shaw’s Garden, now world famous as the Missouri Botanical Garden.

Palmer Agave (*Agave palmeri*) Named after Edward Palmer (1831-1911), an Englishman who spent his adult life in the United States exploring and collecting more than 10,000 plants from Florida, the Southwest, Mexico, South America and the islands off Baja California. He was a botanist, employed by the Department of Agriculture, who led the expedition in 1891 to collect samples of exotic flora and fauna across a large part of California and Death Valley espe-

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May Reminders

- ⇒ Deep water
 - ⇒ Plant warm-season crops
 - ⇒ Check tree ties
 - ⇒ Control pests
 - ⇒ Control weeds
- (The bulletin *Controlling Weeds*—is available from the Cooperative Extension Offices.)

Creating a Wildlife Habitat Garden—Basic Design Ideas

Last month I stated that the best approach to a habitat garden is DIVERSITY. The more types of foods and habitat niches you can provide, the more animals you can attract. Currently our habitat garden yard list consists of 46 species of birds and 57 species of butterflies in addition to lizards, toads, snakes, rabbits, dragonflies, bees, spiders, bats, turtles, ants, moths, squirrels, and other assorted insects.

Here is this month's homework:

- Find out which wildlife species are in your area and which plants they use for food sources. There are regional plant differences which can determine how well they will thrive in your garden.
- Evaluate your garden style or preference (formal vs. informal) and decide how much time you want to spend maintaining the garden. An informal garden will be easier to care for than a formal one.

Garden may chores include:

- Watering
- Mulching & Weeding
- Deadheading annual for continuous bloom
- Tip pruning larval food plants to produce new leaves for caterpillar food
- Early spring mowing of habitat wildflower and grass meadows

Using your map decide where you want to create, add, or retro-fit habitat niches:

- Begin researching what plants you want to add to the garden. Select and group plants into plant communities (thickets) according to water requirements. Use wildflowers, shrubs, and trees that will

provide berries, fruits, seeds, nuts, nectar, and will attract insects from spring until fall.

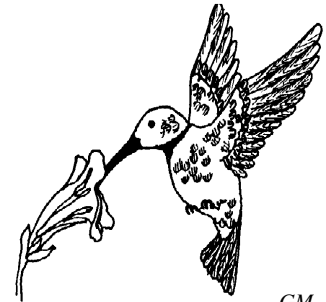
- What! Attract insects to the garden? YES! Birds consume insects for their protein needs. Insects are especially important for nesting birds to feed their young.
- Remember that it's not necessary to install a habitat garden all at once. Take it slow and plant one area at a time.
- You may want to only create a habitat garden in the back of the garden to allow it to be more "messy." Closer to the home the garden can be more formal and the use of decorative rock more liberal.
- Deep rock mulches can be a problem for wildlife. They are hot, difficult to walk on, and seeds and insects can "escape" into the gravel. If you can, provide a space using "living mulches." When designing a garden place plants so at maturity they will create their own "shade mulch." This requires planting a natural garden so plants will grow into each other ever so slightly but not so much that unnecessary pruning is required. The ratio of the mature garden would be enough plants to cover 1/2 to 3/4 of the ground space as opposed to the wide expanses of gravelscapes with a plant here and there so often seen today. Use native grasses and wildflowers to fill in the spaces between plants. This also allows plants to fertilize themselves with fallen leaves and dead plant debris.

REMEMBER!

The balance of nature will take care of itself - reduce the use of pesti-

cides - they kill insects that attract wildlife to the garden in the first place. A beautiful habitat garden can and should be had without the use of pesticides. Too much neatness and tidiness may actually make your garden less attractive to wildlife. So have a ball and let the garden get a little "wild!"

Next time: Basic #1—Water



Cheri's "What To-Do" List

May in the High Desert is usually windy, hot, and dry.

- Keep working on irrigation systems.
- It's a good time to use your garden map to fine tune the hydro-zones. For more info see the November 2000 newsletter issue.
- The insects are here! Nesting birds will begin consuming less seeds sources and switch to eating and feeding their young protein rich insects.
- Be sure you are irrigating the garden to the correct rooting depths. For more info see the December 2000 newsletter issue.

The Agent's Observations

Q I planted some poplar trees last year and want to plant some more. I know they use quite a bit of water but are fast growing and I like the shade they provide. My neighbor claims that the roots of poplar trees will invade the city water line and cause it to break. Is that true?

A Poplar trees, as well as cottonwood and willow trees, are native to rivers, streams and washes in Arizona. They require a lot of water for good growth. Root invasion of sewer lines, septic leach lines or irrigation pipes that have water in them intermittently does occur. I have not heard or seen tree roots plugging up constantly pressurized municipal waterlines that are properly constructed.

Q Some of the plants in my yard have brown leaves and are dried out. Will my ash, fig trees, and oleander recover from this damage? What caused it?

A Yes, they should recover. The damage you see is from cold damage. The damage could have occurred during the winter or the early spring. During freezing temperatures the new tender leaf tissue is damaged, turns brown and dies. New leaves will grow from secondary buds. During the summer they will look normal. Plants that took hard freezes like your fig and oleander

will regrow from crowns and/or roots. Freeze incidents will occur from time to time causing plant damage. Saguaros grown in Cochise County as ornamentals are a good example. The constrictions that you observe on the trunk and arms of the saguaros were usually caused by freezing temperatures that cause growing points cells to die. Prune back all of the dead stems and branches on the affected plants to the new growth.

Q In previous years my apple and peach trees have produced large amounts of small fruit. How can I produce larger fruit?

A Most fruit trees produce more flowers, which if properly pollinated, will produce more fruit than the tree can mature. Cell division within the fruit occurs for only two to six weeks, depending on variety, and then cell division stops. Cells enlarge over the rest of the growing season, usually two to five months depending on variety. Think of the fruit as a "package of cells." By thinning fruit during the cell division period there are fewer fruit but more cells per "fruit package." Tree leaves can only manufacture enough food to produce a certain number of fruit cells. The question becomes one of having a lot of small "packages" or fewer large "packages." Fruit and nut trees will abort excess fruit in



May in Southeastern Arizona. During June in other parts of the nation fruit abortion occurs and is called "June drop." For a full crop of apples and pears only 10-20% of the fruit needs to mature; for peaches or nectarines only 5-10%. To thin apples and pears use scissors to cut off or fingernails to pinch off excessive fruit at the stem. For peaches and nectarines use a "Kentucky Bumper." This is a broom stick with a piece of split garden hose attached at the end. Wiggle the hose around the fruit. Fruit will rain down! Finish thinning by hand to achieve proper spacing. Thin so that one or two fruit are spaced about six to eight inches apart on branches. Generally it takes 30-40 leaves to produce enough photosynthate (food) to mature a fruit. Thinning is not practiced on almonds or other nut trees, apricots, cherries, figs, or plums, however they will experience "June drop."

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cially. He suffered personal and professional tragedies such as the death of his young bride from yellow fever, and the losses of several of his collections. After his death his field notes sat neglected on a shelf for more than fifty years. He did however have two hundred species named after him, and Professor Asa Gray named a genus, *Palmerella*, after him.

Parry Agave (*Agave parryi*) Named for Dr. Charles Christopher Parry (1823-1890), an English-born American botanist and botanical collector with the Pacific Railway Survey who visited the Southwestern mountains and deserts many times and is remembered in the names of more than a score of California native plants. During his long career, he became the trusted colleague of many major naturalists such as John Torrey, Asa Gray, George Engelmann, John Muir, Charles Wright, Edward Green,

Edward Palmer, John G. Lemmon, and Sir Joseph Hooker, son of William Hooker and like his father the Director of Kew Gardens in London. He was a member of both the Mexican Boundary Survey and the Pacific Railway Survey, but he was better at discovering new species than at describing them. One of his most beautiful finds was *Lilium parryi*, the lemon lily. Few American botanists have covered as much and as many different areas as he did.

Autumn Sage (*Salvia greggii*) Named after Josiah Gregg (1806-1850), frontier trader and author, who sent many specimens to Dr. George Engelmann in St. Louis from little known areas of the southwest. In 1849 he traveled to the northwestern corner of California where he hoped to find gold, and continued his somewhat erratic quests as a

naturalist. He was not popular with those he associated with, and he died at the early age of 44 after enduring a wet winter trapped in a forest of giant fallen redwoods.

Until next time, happy surfing.

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Bisbee Farmer's Market

Beginning May 4, 2002 an old-fashioned Farmer's Market will be held in the Warren District's Vista Park, Bisbee, on Saturday mornings from 7:30—11:30 a.m.