



High on the Desert Cochise County Master Gardener Newsletter

Vol. 13, No. 2 FEBRUARY 2002

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

Gardening in water Get your hands wet with Angel

This month I will address the most common plant in the water garden, and the most hated: algae. In a pond there are several kinds of algae—single-celled-free-floating types which cause green water; the mossy growth that covers the sides of the liner and the pots; and the least desirable, the stringy, filamentous type that entangles plants called blanket weed. Moss-like algae is actually beneficial and a sign of good health in a water garden. This algae harbors the same kind of bacteria found in an artificial biological filter and helps to remove toxic chemicals from your water garden and provides food for fish and tadpoles.

Green-water algae appear in the early spring as the air and water warm up and

before most aquatic plants break dormancy. These algae are found often in new water gardens and in ponds without plants. The growth requirements of green-water algae are the same as those of other plants: light and nutrients. One way to discourage algae growth is to cut down on the light with floating plants and floating leaves, to shade the water. It is also helpful to use water dyes, but keep in mind they also shade plants growing below the water surface. The best way to prevent green-water algae is to have 60 percent of the surface of your water garden covered by plants and to use submerged plants such as Elodea or Anacharis and to keep the fish load down. Controlling the growth of green-water algae with algaecides is not

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Cochise County Cooperative Extension

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advisable as it may also stunt aquatic plants and harm fish. Algae can also be killed with an ultraviolet sterilizer. This light is set up after the filter unit so that all water passes with in a specific distance to kill any microscopic plant or animal life in the water. This means of algae control also presents a cleanup problem. If the dead algae collect on the pond bottom, the cycle of decomposing organic matter produces more nutrients for more algae. Filamentous algae usually occur in clear water. The best way of controlling blanket weed is simply to take it out by hand.

To prevent algae it is important to have a good balance in your water garden.

Plants of the month:

Water Hyacinth (*Eichornia crassipes*)

Delicate flowers that last only one day grace this plant. Long thick roots trail to provide spawning areas for fish as well as nutrient uptake from the water. This plan requires heat and sunlight to flourish. A vigorous reproducer by stolen, it can quickly take over the water garden.

Water Lettuce (*Pistia stratiotes*)

Arranged in spirals or rosettes, the leaves produce plantlets. Good helper in the fight of algae.

Both plants are not hardy in our region and need to be taken indoors or replaced.

Angel Rutherford
Master Gardener

(Note: Angel will be a speaker at the High Desert Gardening & Landscaping Conference February 21 & 22.)

High on the Desert

The 9th annual High Desert Gardening & Landscaping Conference will be held **February 21 & 22, 2002** at the Windemere Hotel & Conference Center in Sierra Vista. You will find a registration form in this month's newsletter and on our web site.

If you use the registration form in this newsletter the late fee will be waived!

We hope to see YOU there!

Cuttings 'N' Clippings

* A free pruning workshop will be held February 23 at 9:00 a.m. See the back cover of this newsletter for details.

* The March 2, 2002 *Water Wise* workshop is: **Xeriscape, Low Water Use Landscaping** from 9—10:00 am with Jan Groth, Landscaper and Cochise County Master Gardener. The free workshop takes place at the University of Arizona South Campus, 1140 N. Colombo, Sierra Vista.

* The next regular meeting of Cochise County Master Gardeners Association (CCMGA) is March 13, 2002 at the Sierra Vista Library, 5:00—7:00 pm.

* CCMGA announces that Edna Weigel is the winner of a full scholarship to the High Desert Gardening & Landscaping Conference. Congratulations!

How can I become a Master Gardener?

One becomes a Master Gardener by taking a 13-week county training program and successfully passing a final exam. You first become a MG Associate and after completing 50 hours of volunteer service, an Associate becomes a full-fledged MG. Topics covered in the classes include Botany, Soils, Pest Management, Vegetables, Plant Problem Diagnosis, Ornamentals, Fruit and Nut Trees, Plant Propagation, and Irrigation and they are taught by University of Arizona Extension professionals

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Robert E. Call
Extension Agent, Horticulture

Carolyn Gruenhagen
Editor



Book Review

Butterflies of Arizona A Photographic Guide, by Bob Stewart, Priscilla Brodtkin & Hank Brodtkin ISBN 0-9663072-1-6, West Coast Lady Press, 414 pages

This is a beautiful book dedicated to the butterflies of Arizona. It contains 553 pictures of the 331 species that have been seen in Arizona to include some rare butterflies and those that one may encounter in Sonora, Mexico.

The pictures are drop-dead gorgeous, all close ups, and when possible, showing butterflies with their wings open and shut. All pictures were taken in natural environments. The text includes the common and botanical name, key field marks, size, when the adults fly, host plants, range, and habitat. When necessary the authors have also included similar species (with references on how to distinguish two or more similar looking butterflies to help narrow identification) and additional notes.

Let me include here that the North American Butterfly Association (NABA) compiles a Checklist & English Names of North American Butterflies. The checklist includes all 722 species of butterflies that have been recorded in North America, north of Mexico and in Hawaii. What is nice about this is that each butterfly is "designated" an official common name. This avoids confusion that is so prevalent in the gardening world as one plant can have up to a half a dozen common names! So when in the field one can call out that they have spotted a Great Blue Hairstreak everyone will know exactly which butterfly is being referenced.

The authors also include something I have not seen in other butterfly guides: sections dedicated to showcasing the larvae of common butterflies, a selection of predators and parasitoids that are a part of the natural food chain of the butterfly life cycle, and a fantastic appendix that lists all the butterflies and their host plants.

This book is not only applicable to the state of Arizona but many of these butterflies also occur in California (68%), Colorado (74%), Nevada (67%), New Mexico (84%), and Utah (68%) making this a great guide for the Southwest.

If you are interested in learning more about butterflies check out the Southeast Arizona Butterfly Association's website at www.naba.org/chapters/nabasa/home.html

And, if all this talk about habitat, host plants, and larvae is confusing and you want to learn more about butterfly gardening be sure to attend the High Desert Gardening & Landscaping Conference On February 21 and 22. I will speak about those sparkling but ephemeral creatures that grace the garden and will cover the basics of butterfly gardening: the life cycle, habitat requirements, garden design principles, and how to select food plants to create a beautiful and diverse habitat for the enjoyment of butterflies and gardeners alike!

*Cheri Melton
Master Gardener*



(Continued from page 2)

and other horticultural experts. Cost of the training program is \$85.00 which includes the training manual. The Master Gardener Program promotes food production, landscaping with native plants, and environmental stewardship. The next class is scheduled to begin March 6 at 10:00 am and will run 3 hours for 13 weeks.

For more information on the Master Gardener program, call 458-8278, Ext. 2141.

Let's Talk Trash Exchange Program

This program was developed for use in Cochise County to prevent usable products from entering our waste stream. The Let's Talk Trash Exchange creates a means in which Cochise County businesses and individuals can exchange materials as needed. Here is how to use the program:

- E-mail letstalktrashswap@yahoo.com or call 432-3428 to list items you no longer need or items you would like to find.
- All items are given away, not sold. (There is no charge for the service or items.)
- Potential users of the materials posted may contact the individual or business directly to arrange pickup or delivery of the item.

Items needed include electronics, packaging, textiles, electronics, furniture, appliances, wood, construction materials, misc. items, but not clothing.

The Virtual Gardener—Sheet Mulching

I was so impressed with Cheri Melton's review of Toby Hemenway's book, *Gaia's Garden—A Guide to Home-Scale Permaculture*, that I had to buy a copy for myself, so I rushed out (virtually speaking) and bought a copy. Whenever I go book shopping my first stop is always on the Internet. I found a "used" copy of the book in pristine condition for half the suggested retail price, and it was in my hands a few days later.

One of the standard techniques used by permaculturalists to improve soil is sheet mulching (AKA sheet composting, composting in place). Hemenway includes a great description of the technique in the book, but as usual, I wasn't satisfied with just that information so I turned to the Web to see what else I could find out. I used a meta search engine that I discovered last year called "InfoJukebox" (www.infojukebox.com). I like this search engine because it is very comprehensive and it allows me to save my search results to an Excel spreadsheet or Access database for later perusal. As usual, my InfoJukebox search turned up a very extensive list of results.

Sheet mulching, as defined by Hemenway, is composting in place to eradicate weeds and build soil without the need for herbicides or tilling. The technique is great for busy gardeners. Permaculture style

sheet mulching takes a little labor up front to get started, but once that's done, nature does the rest.

The first step in sheet mulching a area is to cut down or even stomp down the existing vegetation and then water the area. Once this is accomplished you begin building layers of mulch, watering down each layer as it is added. First, sprinkle the area with a little organic fertilizer such as blood meal or manure. Next comes a layer of overlapped sheets of newspaper (eight to ten sheets thick) or cardboard to create a weed barrier. Pile 6 to 12 inches of straw, leaves, grass trimmings, etc on top of the weed barrier. If you want to plant the area within a few weeks, top that with 1 to 2 inches of compost (available at a very reasonable cost from the city of Sierra Vista) to provide a medium for the plants to grow in and finish with another 2 inches of straw. If you can wait for several months before planting, it is not even necessary to add the layer of compost.

For starters, I intend to sheet mulch around my young trees. In the very dense clay soil of my yard, trees sometimes tend to become root bound in their planting holes or take a very long time to push roots into the dense soil beyond. Sheet mulching in a large ring around the trees should loosen

the soil and encourage them to send roots over a wider area.

Be cautious when searching the Web for references to sheet mulching and composting. Many sites advise using very thin layers of mulch and tilling it in. Here are some sites I found that provide good information on the subject:

Sheet Composting/Natural Life Magazine #37 at <http://www.life.ca/nl/37/permaculture.html>

Sheet Mulching Greater Plant and Soil Health for Less Work at http://www.agroforester.com/articles/Sheet_Mulching.html

Sheet Mulching at <http://www.geocities.com/SoHo/Coffeehouse/4470/sheetmul.html>

Until next month, happy surfing!

Gary A. Gruenhagen, Master Gardener
gruenha@sinosa.com

February Reminders

- ♥ Winter prune
- ♥ Prune roses
- ♥ Cold-moist stratify seeds
- ♥ Plant bare-root trees
- ♥ Prepare spring planting beds
- ♥ Clean & repair drip irrigation systems
- ♥ Finalize spring garden plans
- ♥ Keep watering!

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High on the Desert

Date _____ Late fee waived!

Name _____

Address _____

City _____ State _____ Zip _____

Telephone _____

Full Conference \$70.00
 Thursday & Friday
 (After February 1, 2002 \$80.00)

One Day \$45.00
 _____ Thursday _____ Friday
 (After February 1, 2002 \$50.00)

Amount Enclosed _____

(No refunds after February 8, 2002)

Please make check payable to: **CCMGA**

Mail to:

CCMGA
1140 N. Colombo
Sierra Vista, AZ 85635

To help with our planning, please indicate Preference for each session.

	I	II	III	IV	V	VI
A	A	A	A	A	A	A
B	B	B	B	B	B	B
C	C	C	C	C	C	C

For information call:

The U. of A. Cooperative Extension Office
 Sierra Vista, AZ (520) 458-8278, Ext. 2141
www.ag.arizona.edu/cochise/mg/

2002 Conference Program

Thursday, February 21

7:30 - 8:45 am Registration & Breakfast

8:45 - 9:00 am Welcome

9:00 - 10:15 am General Session
 Cheri Melton, Master Gardener
Gardening With Butterflies

10:30 - 11:45 am General Session
 Paul Brown, Ph.D. University of Arizona
Global Climate Change

11:45 am - 12:00 pm Exhibits

12:00 - 1:15 pm Lunch, Door Prizes & Exhibits

1:30—2:30 pm Session I

- A. Ginger Maxey, Water Conservation Educator, Ft. Huachuca, *Ground Water Model**
- B. John Begeman, Extension Agent, Pima County, *Mediterranean Landscaping Principles*
- C. Jeff Schalaus, Extension Agent, Yavapai County, *Wildlife in the Urban Interface*

2:45 - 3:45 pm Session II

- A. Chris Jones, Extension Agent, Gila County, *Weed Control Principles**
- B. Ursula Schuch, Ph.D, University of Arizona, *Salt Tolerance of Ornamentals*
- C. Cathy Cromell, Instructional Specialist, Maricopa County Extension, *Compost and the Garden*

4:00 - 5:00 pm Session III

- A. Deryl Smith, Master Gardener, *Basic Arboriculture**
- B. John White, Extension Agent, Dona Ana County, NM, *Growing Chilies & Other Vegetables*
- C. Jim Koweek, Nurseryman, *Revegetation Revisited*

Friday, February 22

7:30 - 8:45 am Registration & Breakfast

8:45 - 9:00 am Welcome

9:00 - 10:15 am General Session
 Libby Davison, University of Arizona,
Seed Propagation of Native Plants

10:30 - 11:45 am General Session
 Extension Agents Panel, *Questions & Answers*

11:45 am - 12:00 pm Exhibits

12:00 - 1:15 pm Lunch, Door Prizes & Exhibits

1:30 - 2:30 pm Session IV

- A. Jim Shaffer, U of A South Plant Science Center, *Principles of Landscape Design**
- B. Tom DeGomez, Ph.D., Extension Agent, Coconino County, *Tree Insect ID*
- C. Angel Rutherford, Master Gardener, *Water Gardening*

2:45 - 3:45 pm Session V

- A. Rob Call, Extension Agent, Cochise County, *Desert Soils**
- B. John Miller, Ft. Huachuca Forester, *Landscape Mistakes*
- C. Randy Norton, Ph.D., Extension Agent, Graham County, *Biotechnology*

4:00 - 5:00 pm Session VI

- A. Cado Daily, Water Wise Educator, *Water Harvesting Worldwide**
- B. Terry Mikel, Extension Agent, Maricopa County, *Vegetative Propagation*
- C. Peter Gierlach, Nurseryman. *Wilds of Nature*

5:15 - 7:00 pm Reception

*Denotes Basic Gardening Session

NOTE: ALL SPEAKERS, TOPICS, AND TIMES ARE SUBJECT TO CHANGE WITHOUT NOTICE



Fruit & Nut 1

Saturday, February 23, 2002

9:00 – 11:00 AM

1325 Plaza Amapola, Sierra Vista

Free!

From S.V., take Highway 92 south to Foothills Dr. Turn left (east). Take 5th left onto Paseo Arruza, then second left onto Plaza Amapola.

Demonstration given by

Robert E. Call

Extension Agent, Horticulture

Everyone welcome!

ARIZONA COOPERATIVE EXTENSION
U.S. DEPARTMENT OF AGRICULTURE

Cochise County
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Willcox, AZ 85643-2790
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