

Gulf Coast Gardening

WRITTEN BY GALVESTON COUNTY MASTER GARDENERS IN COOPERATION
WITH THE GALVESTON COUNTY OFFICE OF TEXAS A&M AGRILIFE EXTENSION SERVICE

Issue 193 - November-December 2014

Beneficials

more than just lady beetles



TEXAS A&M
AGRILIFE
EXTENSION



2014 MASTER GARDENER ASSOCIATION LEADERSHIP

President
Ira Gervais

VP for Programs
**Chris Anastas, Penny Bessire &
Robert Marshall, Judy Anderson**

VP for Projects
**Julie Cartmill, Clyde Holt, Bobbie Ivey &
Tish Reustle**

VP for Volunteer Development
Peggy Budny & Laurel Stine

VP for Media Relations
Ira Gervais

Co-Secretary
Mary Lou Kelso & Cindy Croft

Treasurer
Julie Cartmill

Assistant Treasurer
Tim Jahnke

Newsletter Editor
Linda Steber

Master IT Specialist
Gregory S. Werth

Demonstration Gardens Team Leaders
**Peggy Budny, Bob & Jo McPherson,
Bobbie Ivey, Julie Cartmill, Clyde Holt &
Tish Reustle**

MG Intern Course Committee
**Peggy Budny, Bob & Jo McPherson,
Yvonne Enos & Lizette Gaudin**

Hospitality Coordinators
**Lori & Keith Boydston, Dr. Carroll & Marsha
Lassiter, Judy Anderson, & Donna Ward**

Speakers Bureau Coordinator
Cindy Croft

MG Volunteers Hour Recorders
**Wayne Elliott, Denice Franke &
Dr. Margaret Canavan**

Jr. Master Gardener Programs Liaison
Barbara White

Earth-Kind Study Coordinators
John Jons & Alisa Rasmussen

Photography Team Leaders
Herman Auer & Tom Fountain

Videographers
Barbara Hankins

Image Seekers Coordinator
Scott Buckel & Helle Brown

State Association Delegates
Terry & Velda Cuculis

State Association Delegate Alternates
Julie Cartmill & Jim Edwards

Grants & Inkind Support Coordinator
Frank Jackson

Webmaster
Laura Bellmore

Advisor
Dr. William M. Johnson

Board of Directors
**John Jons
Camille Goodwin
Dotti Krustchinsky
Frank Resch
Ken Steblein**

*Non-gardener: "Did I just hear thunder?" Gardener:
"I hear nitrogen!" -- Kay Neff*



*By Camille Goodwin
MG 2008*

Rainfall was quite generous this year and the displays of lightning during thunderstorms were striking. Did you know that lightning provides our soils with nitrogen? When lightning "splits the sky," it changes nitrogen gas in the air to nitrogen compounds. These compounds fall to the ground and are added to the soil. Approximately ten percent of the nitrogen fertilizer needed for farming is made by lightning. Lightning is a "beneficial" that produces a good effect and is advantageous for our gardens. Most of us probably don't give much thought to the benefits of lightning or even to the maze of beneficials that inhabit our yards.

As we always do before preparing each newsletter issue, members of the MG Newsletter Committee met at a bimonthly meeting to plan this newsletter. Each edition of our newsletter over the 2014 calendar year has focused on a specific gardening theme or topic. While committee members were pondering what would be a good theme for this newsletter, Linda Steber (our Newsletter Editor) conveyed to us that Dr. Johnson had suggested beneficial insects. I must admit that we were concerned that we might have a hard time assembling a cadre of MG writers and material to make this happen.

We should not have had any such concerns as 17 of our Master Gardeners stepped up to the challenge. This newsletter edition provides multiple accounts of first-hand experiences outlining our MGs' response to the question: What is your favorite beneficial insect—excluding lady beetles and honeybees?

As mentioned above, lighting is but one entity in a world of perpetual natural wonders that are going on in our landscapes that we should take the time to observe and learn more about how to help create successful sustainable practices and promote quantity and diversity of beneficials.

MG Alisa Rasmussen takes us on an informative and delightful tour of the new Butterfly Garden in our Demonstration Garden at Carbide Park and shows us a beneficial insect workforce engagement right under our noses (page 4). Check out the Best Shots exposé on pages 12-15 where several vignettes from our Master Gardeners tell about their encounter with their favorite beneficial insect.

After reading about the diverse variety of beneficials in our gardens, take a look at page 10 to learn about the very important, but often not thought about detritivores (sometimes referred to as decomposers/recyclers). Without detritivores, the world would soon be overrun with dead plants, animals and fecal matter. At our MG Newsletter meeting, no one volunteered for this topic so Linda asked if I'd write it—if you know me and bugs—you know my skin is still crawling! To learn more about beneficial insects already at work in our Galveston County landscape, (as well as the State of Texas and beyond), visit our MG website: <http://aggie-horticulture.tamu.edu/galveston/beneficials/>

Dr. Johnson details his experience with an aggressive paper wasp interloper on page 28 (reprinted from one of his weekly gardening columns in *The Galveston Daily News*); paper wasps are normally a beneficial but can sometimes be a source of pain!

I was amazed at the number of beneficial insects at work in our landscapes and gardens, whether they "work" in gardens and landscapes in Galveston County, the State of Texas or in the USA). I was also impressed—though not surprised—at how our Master Gardeners responded to the call!

Enjoy this issue and when you finish reading, go check to see how many beneficials are at work in your home landscape and garden.

Inside This Issue...

- 2 *Intro* by Camille Goodwin
- 3 *How to Reach Us*
- 4 *Beneficials in the Demo Garden* by Alisa Rasmussen
- 6 *Master Gardener Favorite Beneficial: Mealybug Destroyer* by Loretta Osteen
- 7 *Master Gardener Favorite Beneficial: Barklice* by Dr. Margaret Canavan
- 8 *Attracting Beneficial Insects to Your Garden* by Pat Forke
- 9 *Making a Case for Snakes, Toads, Spiders & Bats* by Linda Garren McKillip
- 10 *The Unsung Beneficials - Detritivores* by Camille Goodwin
- 11 *A Native Beneficial - Lightning Bug* by Tim Jahnke
- 12 *MG Best Shots & Narrative - Favorite Beneficials of our MGs* by Six MGs
- 16 *Cricket Hunter Wasps - New Beneficial for Galveston County* by Laurel Stine
- 17 *Lady Bug, Lady Bug - Don't Fly Away* by Kaye Corey
- 18 *Trowels and Tribulations* by Donna Ward
- 19 *The Island Garden - The Fall Farmer* by Jan Brick
- 20 *Interview with a Dragonfly* by Donna Ward
- 21 *Project: Demonstration Gardens* by Tom Fountain
- 22 *Seasonal Bites* - by Sandra Gervais
- 23 *Meeting Minutes - MGA Meetings* by Cindy Croft & Mary Lou Kelso
- 24 *Recertification Hours for MGs* by Laura Bellmore
- 25 *Gardening Calendar Video* by Jenifer Leonpacher and Gregory Werth
- 25 *Upcoming Events*
- 26 *Three Cheers - Ken & Camille Goodwin* by Laura Bellmore
- 27 *Bulletin Board*
- 28 *The Last Word - The Good and the Bad of Insects* by Dr. William M. Johnson
- 29 *2014 Monthly Meetings*



A sushi lunch buffet for the Lady Beetle, chomping down on yellow aphids.



Galveston County Master Gardeners are on Facebook with information about upcoming programs, Dr. Johnson's weekly column and more. Like us on Facebook and don't forget to opt to receive notifications. Share with others!

<https://www.facebook.com/pages/Galveston-County-Master-Gardeners/220088841395231>

How to Reach Us



Extension Office:

Phone . . . 281-534-3413, ext. 1-2

E-Mailgalv3@wt.net

To Submit Newsletter Articles:

Contact Linda Steber

Phone281-534-6695

E-Mail . . .steber8@msn.com

We encourage your articles!

Due the 20th of each month.

To Send Volunteer Hours:

E-Mailmghours@wt.net

Speakers Bureau:

Contact Cindy Croft

Phone 281-332-9501

E-Mail

garden.speakers@gmail.com



Extension programs serve people of all ages regardless of socioeconomic level, race, color, sex, religion, disability, or national origin. The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of Texas cooperating.

References to trade names are made with the understanding that no discrimination is intended and no endorsement by Texas A&M AgriLife Extension is implied.



To Subscribe to our Newsletter - just click on the subscribe button above

Interested in gardening in Galveston County? To receive a free subscription to the Galveston County Master Gardeners' Magazine, please enter your e-mail address after clicking on the "Subscribe to our NEWSLETTER" button above. You will automatically receive an e-mail message when each issue is posted. Your e-mail address will not be used for any other purpose other than sending the e-newsletter. We will not send any commercial mail to the address provided nor will the newsletter itself contain any advertisements . . . *we are all about the joy of gardening.* Thanks for your interest!

Beneficials in the Demo Garden

not just your honey bees and lady beetles



By Alisa Rasmussen
MG 2013

When asked to write this article for our Newsletter about the good guys (and ladies!) in our landscapes and gardens, I first thought of honey bees and lady beetles (I called them ladybugs growing up) because most gardeners already know they are beneficial. But there was a stipulation to the request — we were asked to write about any beneficial insect other than lady beetles and honey bees. So, it was back to square one!

We as Master Gardeners are encouraged to expand our knowledge base and this endeavor proved to be a wonderful learning opportunity. I learned that there are many, many more beneficial insects than I ever imagined!

I typically spend my Thursdays at our Master Gardener Demonstration Garden working in the Earth-Kind Bed which is near the new Butterfly Garden. Instead of keeping my head down, weeding and working the beds like I usually do, Dr. Johnson instructed me to “look up and look critically” at plant leaves and flowers to find more beneficial insects. A whole new world opens up when you slow down and really see.

As I walked by the tropical milkweed plant (*Asclepias curassavica*) growing in our Butterfly Garden, yellow aphids were in overwhelming abundance on its flower buds and upper leaves (Fig. 1). I was worried that if left unchecked, premature leaf drop would occur and harm the plant. I initially sought to help it survive by directing a strong spray of water to knock many of the aphids off, but remembering that lady beetles eat aphids, I decided to wait and see if any had arrived.

Crouching down and looking up at the undersides of the leaves, I found an amazing sight. In just a few minutes I discovered an adult lady beetle (Fig. 2) having a sushi lunch buffet of yellow aphids. Then I saw many, many distinctly colored, orange and black lady beetle larvae (Fig. 3) crawling around and chomping on aphids as well. I saw a cluster of bright yellow “jelly bean” shaped eggs (Fig. 4) laid by a female lady beetle (and yes, a male lady beetle is still called a lady beetle). An adult Lady Beetle had already emerged from one pupa (Fig. 5) while the adult stage had not yet emerged from either of two other closely-spaced pupae (Fig. 6). I lost count on the number of Lady Beetle pupa on just that one milkweed plant. The Lady Beetles knew where the feast was and weren't waiting for an invitation!

There were lots more sub-plots to be scripted! Almost missing it, I glimpsed a cluster of lacewing eggs laid in a delicate spiral formation. Look again at Fig. 6 below—the lacewings eggs are the white spiral of dot-like structures between and directly above the two Lady Beetle pupae—did you remember to “look up and look critically?” That's two very different beneficials in different stages of metaphorsis right next to each other. The lacewings eggs hatch into larvae (known as “aphid lions”) which voraciously feed on



Fig. 1



Fig. 2

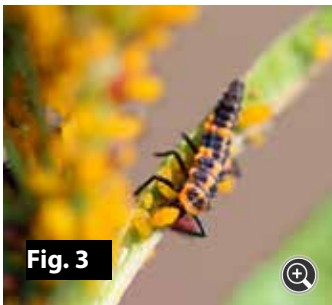


Fig. 3



Fig. 4



Fig. 5



Fig. 6

a whole new world opens up when you slow down and really see

Beneficials in the Demo Garden (continued)

aphids and other soft-bodied insects.

The lady beetles weren't alone after all. Suddenly, a very small green and orange spider (Fig. 8), looking more like a blown glass ornament than a creepy crawly, scurried across the leaf—another beneficial added to the list. It ran right past the pupal case (Fig. 9) left by a hoverfly—another beneficial insect and yea for the hoverfly! The larvae of hoverflies are eating machines. There were several hoverfly larvae (Fig. 10) each with a tell-tale stripe down its back and all were chowing down on aphids.



This was starting to feel like “Where’s Waldo” so I had to keep searching. Some aphids were yellow and some were dark brown. The yellow aphids are really tiny and when an equally tiny parasitic wasp hunting

the aphids meets a hapless aphid, the parasitic wasp (known as a Braconid Wasp, Fig. 13) quickly inserts a single egg into the aphid’s body. Afterwards, it’s a lethal downhill spiral for the aphid. When the wasp’s egg hatches, its larva consumes the living aphid from within, then metamorphoses into an adult wasp to start the cycle over. Before emerging from its long-dead host, the Braconid Wasp chews a near-perfect hole through the body of dead aphid host which then looks like a hardened empty brown shell called an “aphid mummy” (Fig. 7). If you look closely, you can actually see the very small exit holes on the very small aphids that have turned brown. There were way too many aphids to count on the milkweed leaves shown in Fig. 1 on page 5. Did you notice that about one-half of the aphids are mummies? Did you remember to “look up and look critically?” I was getting the feeling I was late for this party—so much had already happened!

Then strangely, a little white “shag carpet” insect caught my eye as it crawled among its insect version of sushi dining on the yellow aphids. It was larval stage of the Mealybug Destroyer (Fig. 11) which was having its own culinary feast. Mealybug Destroyer—what a cool name. Maybe that will be my new game piece in Monopoly to strike fear in my kids even before the game begins. I even eyed the adult stage of the Mealybug Destroyer which is a remarkably small, black and tan colored lady beetle pictured to the left in Fig. 12 below; pictured to the right is a yellow aphid for size comparison..

All of the National Geographic-style subplots I described above occurred on a single milkweed plant growing in our Butterfly Garden. I spotted several other beneficial insects (including the Red and Black Mason Wasp and several pairs of amorous Lovebugs) but space does not allow further discussion nor additional photos.

You too are probably hosting a beneficial insect party just outside your door on the underside of your plant leaves. Instead of killing all the bad guys immediately, I encourage you get down low, then “look up and look critically” at plant leaves/flowers to try to find beneficial insects in your garden and landscape. Start like I did by using our Master Gardener website on *Beneficials in the Garden and Landscape* and then see how many are at work in your garden. Show them to your friends, kids and grandkids! It might just cause you to put away that insecticide sprayer for a while and join the party with a happy dance instead.





By Loretta Osteen
MG 2010

ask a master gardener

a wolf is sheep's clothing MEALYBUG DESTROYER

(Editor's Note: This article was a collaborative endeavor between MG Loretta Osteen and MG Laura Bellmore. It's written in the first person singular—Loretta talked about her favorite beneficial insect while in Laura's office and Laura typed her dialogue. Laura reported it was a pleasure to listen to Loretta and to put Loretta's conversation into type!)



By Laura Bellmore
MG 1992

Dr. Johnson wanted us to choose a favorite beneficial other than lady beetles or honeybees; I got an exemption to his qualification as I really wanted to discuss my hero, the Mealybug Destroyer.

While the name Mealybug Destroyer may not appear to be related to Lady Beetles, the Mealybug Destroyer (*Cryptolaemus montrouzieri*) is a lady beetle, albeit one of the smallest lady beetles. It was first introduced to the U.S. in 1891, imported from Australia to control citrus mealybugs in California. They thrive in our Texas Upper Gulf Coast environment and love our 80-90°F temperatures and high humidity. Adult Mealybug Destroyers live about 2 months. Females lay their eggs among the cottony egg sacks of the mealybugs. When the eggs hatch, the larval stage is somewhere near an available food supply.

While I think they're cute, like little fluffy poodles, what I learned is that they mimic the traits of their favorite prey—mealybugs. This behavior is called aggressive mimicry, akin to a wolf in sheep's clothing. Since they look like the mealybugs, they blend in and feed on the mealybugs and their excrement, a.k.a. honeydew. They will also commonly feed aphids and soft scales.

In 2011, I discovered I had an infestation of mealybugs on my extensive collection of plumeria and hibiscus. Since taking the Master Gardener Class in 2010 and learning about Integrated Pest Management (IPM), tolerance levels, as well as beneficial insects, I had been taking a different approach to insect control and had been trying to encourage beneficials to "come" to my yard. I had already begun using fewer pesticides overall and was trying to return to my yard to a more balanced environment, but I needed a little help.

So, after doing some research, I decided to order some adult stage Mealybug Destroyer beetles (sometimes called Mealybug Destroyer Ladybirds) to hopefully increase their numbers in my yard that could combat the mealybug population that occurred regularly on my plants. When my package of adult lady beetles arrived, I followed the directions on how to release them into my yard, and in a matter of time there was a noticeable decline in mealybugs on my plumeria and hibiscus.

This whole experience with the Mealybug Destroyers has encouraged me to continue to be more environmentally friendly in my whole yard, using fewer pesticides, and allowing the beneficial insects to flourish and control any bad insects that may be on the plants. I wanted to restore that balance of nature.

It took about two years before I actually saw things start to even out, where the beneficial insects were actually controlling the harmful ones. As a result, I see more bees, butterflies, spiders, and other beneficials in my yard and garden. I've learned to have patience, and

to accept that my plumeria and hibiscus plants do not always have to look perfect. If I know I have the beneficial in the yard, they will very likely clean up the mealybug problem.

The way to bring these beneficials into the yard is to just leave stuff alone when possible and don't get trigger-happy with the sprayer. I think we are so geared in our culture to sometimes seek instant gratification, so we reach for something to spray if we see an insect pest or something that shouldn't be there. But if we have patience and are willing to stand back and let nature go through its cycle, in the end the beneficials will help win the war on insect pest control. And so does the gardener. And so does our environment.

Mealybug Destroyers are so similar to mealybugs that sometimes people don't realize they have a "wolf in sheep's clothing" chomping away on the mealybugs.

I seldom see mealybugs in my yard or on my plants anymore, but when I do, I just leave them alone, because I know soon my hero will show up and take care of them. And wouldn't you know it—perfect timing—just because Dr. Johnson said I could write this article, the mealybugs showed up on my plumeria, and the Mealybug Destroyer was already hard at work!

Since I did not have a sharp photo to share of this beneficial insect at work on my plumeria, I perused our MG Digital Library for a photo showing a Mealybug Destroyer at work on a colony of aphids. Whether dining on mealybugs or aphids, the Mealybug Destroyer is my hero!



... FAVORITE BENEFICIALS

webs are a good thing nature's clean up crew at work

EDITOR'S NOTE: Margaret's Tree Stories news columns published by The Galveston Daily News received the Second Place Award at the Texas Master Gardener State Conference in September 2014.

I was standing in my front yard admiring the silky white cobwebs on the bark of my big live oak tree when I got a cell phone call from Dr. J. who had a "small" request. As it turns out, I was staring at the object of his request—a perfect example of serendipity (in this case, finding a pleasant circumstance not looked for which provided an unanticipated opportunity for spreading the word about beneficials in the landscape).

The object of Dr. J's request wasn't the tree—it was the cobwebs on the tree. Dr. Johnson wanted to know the identity of my favorite beneficial insect. That of course would be barklice (two species of barklice occur in the Galveston-Houston region, the most common being *Archipsocus nomas*).

I have been fascinated by these critters since my first days on the Master Gardener HotLine at the County Extension Office. Without fail, in summer we would get calls from worried folks wondering what awful things were on the bark of their trees. Webworms? Tent caterpillars? Nature's version of *Spiders Gone Wild*?

It was a pleasure to reassure them that the webs are a good thing, a sign that Mother Nature's cleanup crew is at work devouring lichen, fungi, and other debris found on tree bark. Sometimes the most difficult thing to do was convince them that they needed to do nothing. I am a proponent of minimal use of pesticides so I enjoyed telling our public there was no need to run out and get one.

There is another reason I enjoy these tiny critters so much: I am an ardent fan of trees in our landscapes. After Hurricane Ike's destruction of 40,000+ trees on Galveston Island on September 13, 2008, I became part of a city-supported group promoting tree replacement, the Galveston Island Tree Conservancy (<http://galvestonisland-treeconservancy.org/>). We have worked consistently since that time to celebrate trees, plant trees, educate people about trees, and raise funds to plant more trees.

I began writing a series "Tree Story" articles for the *Galveston Daily News* as a way to raise awareness of the fabulousness of our trees. Because of that some locals believe I know everything about trees (which of course I do not). So even though I don't staff the Master Gardener HotLine these days, I still get the questions.

As you probably know, barklice do not cause any harm to the trees and no control is recommended. The tiny insects creating these webs are present most years but we tend to notice them when their populations are high and a greater amount of webbing is more visible. The webbing is thin and fragile and wears off as the season progresses. Heavy infestations seem to be associated with our relatively long periods of high humidity. During late summer we sometimes see heavy infestations which may result in the webs covering the main trunk, branches, and even exposed roots. There is an excellent article on this beneficial on our Master Gardener website: http://aggie-horticulture.tamu.edu/galveston/beneficials/beneficial-21_barklice.htm

The winter season sets in, most of the webs have now disappeared from my majestic oak. I look forward to seeing them again next year when it's cleanup time.



By Dr. Margaret Canavan
MG 2003



Photo Credit: GCMGA Digital Library

Webbing produced by certain barklice (*Archipsocus nomas*) may completely envelop the trunks of trees as well as large branches. Oaks and pecan trees are most commonly affected in the Galveston-Houston region.



Photo Credit: GCMGA Digital Library

Close up of barklice webbing on pecan tree bark.



By Pat Forke
MG 2010

requires minimum effort by the gardener **Attracting Beneficial Insects to Your Garden**

Did you know that 97% of insects most commonly seen in our gardens are considered either beneficial or innocuous? Nature has provided us with all kinds of assistance for our horticultural ambitions. The use of beneficial insects to help manage insect pests has been a mainstay among gardeners for a very long time. Beneficial predators and parasitoids are the most important biological means of controlling pests in and around our homes, yards, gardens and crops.

There are numerous advantages to this method of control. It requires minimum effort by the gardener. It helps prevent the development of pesticide resistance in target insects. It does not contribute to environmental pollution. It aids in maintaining a more natural balance in our ecosystem. In addition to insect predators and parasitoids, the role of the pollinators is vital to our existence.

The role of pollinators is widely known and appreciated. Pollinators have long been recognized for their contributions to mankind's welfare and comfort. Without pollinators, there would not be many of the crops we depend on for our daily existence. The Honey Bee is the most well-known pollinator but there are other pollinators also important. These include the Hover Flies that do double duty as beneficials. They not only pollinate flowers but, as larvae, they prey on aphids and other soft-bodied insects. We gardeners can attract and keep our natural friends in our yards and gardens by following some common sense approaches.

Use disease resistant plant varieties. Keep your plants healthy by providing appropriate sunlight, moisture, drainage, and air circulation. A stressed plant is a vulnerable plant. Mulch properly to conserve water, to reduce the weed problems and to help improve the soil. Avoid improper fertilization by having your soil tested to see what and how much amendment it really needs.

The adults of many beneficial insects, such as bees, Lady Beetles, Hover Flies, and parasitic wasps feed on the nectar and pollen produced by flowering plants. Including such plants in the garden will help ensure that these friends will stick around long enough to lay



their eggs on your vegetation. Then, the larvae will consume aphids, caterpillars, mealybugs, cutworms, thrips, and other insect pests.

These plants provide easily accessible nectar and a good landing strip. Choose a variety of plants that bloom at different times during the growing season. Aim to vary color, scents, textures and plant height. Remember your flowers can be planted in your vegetable garden and your herbs can be planted in your flower beds to encourage a variety of locations for your beneficials. During extended periods of dry weather, place a sufficient amount of small rocks or gravel in a bird bath to provide these insects with a foot pad from which to drink safely.

Like any living thing, insects need shelter. We can provide suitable shelter by leaving some leaf litter in landscape beds. Periodically replenishing mulch in landscape beds gives ground-dwelling allies a place to hide when they need to. In general, the greater the diversity of plants in a landscape, the more likely diverse types of beneficial insects will establish residency.

Beneficial insects are almost certainly already in your yard and garden. Before using any pest control strategy, it is vital to identify accurately what is really causing the problem and what will really remedy it. County extension personnel, reference books, fact sheets, on-line resources and other horticulturists can assist in this process.

Periodically inspecting your plants will go a long way in preventing and controlling enemy invasions. Frequent inspections will enable you to find pests while they are still immature and not quite so numerous. Catching them early often results in the use of non-toxic or low toxic methods of control. Use of non-chemical controls whenever possible is the best choice. These might include pruning, hand-picking to remove insects, covering plants with netting, and using forceful watering.

If insecticides are called for, be certain you know your product. Read the label. What does it kill and on which plants is it safe to use? Use the amount and application interval as directed on the label. Use the least toxic chemical that will achieve your goals. Horticultural oils and insecticidal soaps might be a good option. Remember that beneficial insects are still insects. Broad spectrum insecticides that wipe out a wide variety of pests will almost certainly impact beneficials as well.

Plants that are the most attractive to beneficial insects include:

Apiaceae (commonly referred to as the carrot or parsley family) – Includes plants such as dill, parsley, fennel, caraway, cilantro and Queen Anne's Lace with umbrella-shaped clusters of small five-petaled flowers.

Asteraceae or Compositae (commonly referred to as the aster or sunflower family) – Includes asters, marigolds, dahlias, daisies, cosmos, calendula, coreopsis, tansy, yarrow, zinnia and sunflowers. These plants are characterized by flowers composed of rays around a disk-like center.

Brassicaceae (commonly referred to as the mustard family) – Includes plants such as sweet alyssum, nasturtium, candytuft.

more good guys

Making a Case for Snakes, Toads, Spiders and Bats



by Linda Garren McKillip
MG 2003



If I told you that snakes possess a natural beauty and grace, would you buy it? If I told you that their streamlined locomotion is a fascinating example of evolutionary adaptation, would that affect your disaffection for snakes? A guy on Dave's Garden, Geoff Stein, wrote that "Most people seem to have an innate fear and loathing of snakes, which sometimes works out for the snakes (people leave them alone) and sometimes it doesn't (people kill them when they find them in their gardens). There is no way I can convince someone who is terrified of snakes not to be, but perhaps a discussion of their benefits and harmlessness to the garden will deter a few would-be killers of these wonderful and efficient garden predators—they don't dig holes (just use holes already dug by rodents or other burrowers). They don't chew or damage the landscape in any way (wish I could say that about our neighborhood squirrels). No plants are harmed by snakes in any way, either from being eaten or from their physical presence moving through them. They don't contribute one bit to noise pollution. They leave very little in the way of droppings (excellent fertilizer since their prey is so well digested). And they avoid the gardener at all costs. For some reason, far fewer people are bothered by lizards than are bothered by snakes, yet the two are very closely related. Both are great garden predators and help keep the pest populations in check. Just think of snakes as lizards that just don't have their legs, it might help to make them seem less scary. But either way, you have to respect their benefit to the garden."

I actually read an article by a Master Gardener who wrote about attracting snakes to your garden saying "If you value the presence of a snake in a garden"..., provide a garden snake habitat. First and foremost, snakes need a place to hide. Virtually anything that provides a "safe place" for the snake works well."

Let's think about snakes (or any of the critters discussed here) as bouncers in your garden and veggie bar. Those unsavory slugs, cutworms, grubs, hornworms, crickets, rodents and grasshoppers will be swallowed up in a skinny minute. Unfortunately, some earthworms can fall prey as well. Once in my backyard, I saw a snake entwined around a bat—a very confusing sight for me even though the snake did not appear at all to be conflicted by its behavior!

Toads are excellent predators of many pests in the garden. When I was a kid in North Carolina, toads would hop up on the porch at night, drawn to the porch light where tons of insects were buzzing around. Unsuspecting insects might find themselves on a hillbilly smorgasbord. My brother and I quickly figured out that toads weren't the most discerning diners—they absolutely love cutworms, snails, slugs, tent caterpillars and sowbugs.

Toads need shelter; it's easy to make a toad house out of a broken clay pot with soft sand underneath it. Situate the house near water since a toad needs to sit in water in order to absorb moisture through its skin. Also, here along the Texas Upper Gulf Coast region, one must think about providing protection from herons, skunks and raccoons. They enjoy a nice platter of frog legs as do some snakes. Dogs and cats? Not so much; toad 'toadly' tastes bad.

Did you know that spiders consume more insects than birds? Did you know that there are only two out of nearly 900 species of spiders that occur in Galveston County that can cause serious human reaction? Another interesting fact is that spider silk is necessary to some birds for nest building; hummingbirds steal webbing to bind their nests. Best of all, spiders consume a wide range of flying prey including flies, moths, small beetles, wasps, mosquitoes (yea!), and honeybees (sadly). Have you seen the little spiders that look like crabs? They are spiny orb weavers; they are one of the many beneficial spiders that prey on many insect pests. Spiny orb weavers don't come indoors unless riding on a potted plant.

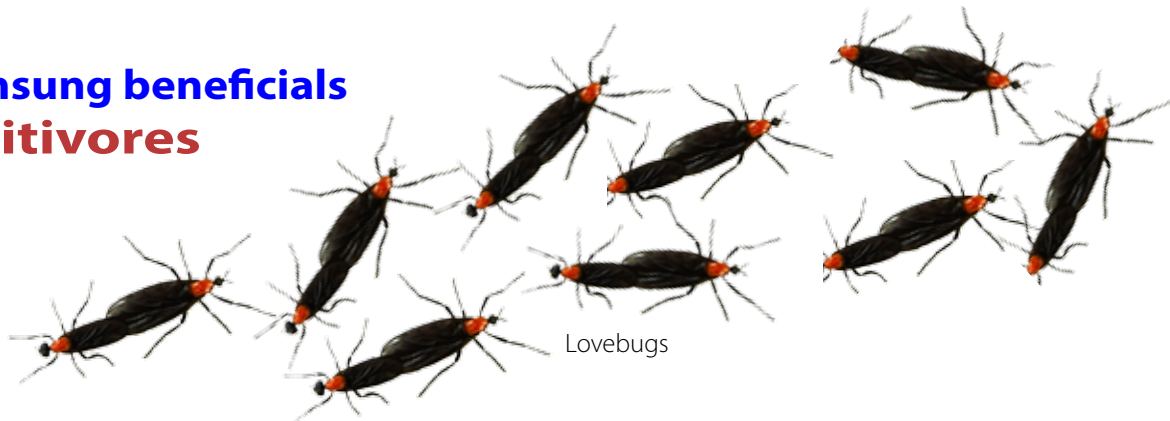
Bats are the Rodney Dangerfield of the beneficials world. If you reached young adulthood around the year 2000 (Millennials or Generation Y), that means in the vernacular "I don't get no respect." Some of you think they are blood-sucking, disease-ridden, winged rats. Wrong on all counts. Bats combine echo-location and aerial aerobatics to be extremely efficient hunters who consume half their weight in insects including midges, mayflies, caddisflies, etc. To encourage bats, leave a light on at night to attract insects. I'm shocked. When Tom Bodett, spokesperson for Motel 6 in memorable TV commercials during the mid-eighties, said that "We'll leave the light on for you."—I thought he was talking about my family.





By Camille Goodwin
MG 2008

the unsung beneficials Detritivores



Lovebugs

Usually when we think about beneficial insects in our gardens, the first things that pop into our thoughts are the ever popular pollinators or the favorite aphid-eating Lady Beetles. These insects are often the “pretty” ones. Not many of us spend time thinking about the insects and other beneficials that actually make life on earth more livable—those known as detritivores or the “decomposers.” Decomposers are extremely valuable to our ecosystem. They eat once living materials such as fallen leaves, organic matter, dead animals and dung to produce droppings which result in nutrients that enrich our soil and spur new plant growth.

This cycle is sometimes called the soil food web and is critical to maintaining fertile soil. Plants and animals are the producers of the waste. Within the soil food web there are primary consumers such as fungi and bacteria that digest the fallen leaves and organic matter. Secondary consumers such as mites, nematodes, springtails and protozoa feed on the fungi and bacteria and release nutrients back into soil. Undigested remains become part of the soil organic matter. Higher level consumers such as earthworms, ground beetles, millipedes, centipedes, crane flies, spiders and ants feed on the secondary consumers then become part of the soil and assist in plant growth.

When gardeners want to put this kind of recycling to work in order to enrich their soil, it is called “composting.” Insects like beetles and their worm-like larvae (grubs), as well as true worms like night-crawlers, help keep a compost heap well ventilated by burrowing holes, and they also help break

the bigger pieces into smaller pieces. Some common decomposers that you might find in your landscapes:

Bess Beetles (*Odontotaenius* spp.) – Adults and C-shaped grubs occur together in decaying logs, with colonies living in tunnels in the decaying logs and stumps. When disturbed, adults make a squeaking (stridulating) sound by rubbing their wings on their abdomen. Adults are often covered by mites and cannot fly.

Carrot Beetle (*Bothynus gibbosus*) – Adults feed on carrots, celery, parsnips, potatoes, beets, corn, cotton, dahlias, elm and oak. Also attacks tar in shingles and between the seams of cement.

“Rainbow Scarab” Dung Beetle (*Phanaeus vindex*) – important in reducing fecal material which reduces the habitat for filth-breeding flies.

Lovebugs (*Plecia nearctica*) – Larvae have chewing mouthparts and feed on decomposing organic matter, plant roots and lawns with thick thatch.

Darkwinged Fungus Gnats (*Bradysia* spp.) – feed primarily on fungi, decaying organic matter, plant roots in moist environments. Larval and pupal stages can survive periods of drought.

Black Soldier Fly (*Hermetia illucens*) – Larvae feed on decomposing organic matter, mold and algae.

Fruit Flies (*Drosophila* spp.) – Immature stages feed on overripe, fermenting or rotting fruits and vegetables.

Blow Flies (*Haematobia irritans*) – primarily feed on dead animals and animal refuse, some feed on vegetation. Blow flies are a nuisance similar to houseflies when

indoors and can be a potential health threat.

Sowbugs and Pillbugs – Sowbugs and pillbugs are scavengers and feed mainly on decaying organic matter. They occasionally feed on young plants but the damage inflicted is seldom significant. Sowbugs and pillbugs thrive only in areas of high moisture, and tend to remain hidden under objects during the day. Around buildings they are common under mulch, compost, boards, stones, flower pots, and other items resting on damp ground.

Centipedes – are flattened, segmented worms with 15 or more pairs of legs, 1 pair per segment. Centipedes are higher level consumers, feeding only on living animals, especially insects and spiders.

Millipedes – live in organic matter (e.g., leaves, mulch, and piles of wood and other material). They help break down plant material by feeding directly on it.

Springtails – There are many species of springtails. They feed on algae and decomposing vegetable matter, bacteria and fungi. Prefer dark, damp areas such as leaf mold, damp soil and rotting logs.

Earthworms – are the champions of heavyweight decomposition. The earthworm consists mainly of an alimentary canal which ingests, decomposes, and deposits casts continually during the earthworm’s active periods. The matter passes out of the worm’s body in the form of casts, which are the richest and finest quality of all humus material. Earthworms thrive on compost and contribute to its quality through both physical and chemical processes, and reproduce readily in the well-managed pile.



a native beneficial LIGHTNING BUG



By Tim Jahnke
MG 2011

August 10, 2014—I look out my kitchen window and watch the “super moon” climb in the eastern sky. This full moon will be 14% closer and 30% brighter than other full moons of the year. The moon is so bright that trees cast shadows during nighttime. I call Mo, our 100-pound poodle, for a walk through our moon lit woods in Santa Fe. As we reach the back of the property, there in my neighbor’s hay field were hundreds of lightning bugs filling the sky. The magical sight took me back to my childhood, chasing lightning bugs on a summer night.

Lightning bugs are sometimes called fireflies but they are beetles. There are more than 2000 species of lightning bugs around the world. There are about 170 species in North America. The males flash at night to attract females. Different species have different flashing patterns and their light can be yellow, green or orange. The light is produced in a dedicated organ located under their abdomen. A chemical reaction that involves oxygen and a substance called luciferin generates light (bioluminescence). Lightning bugs control the flow of oxygen to turn their light on and off. The light is also a defense mechanism that warns predators of the lightning bugs’ unappetizing taste. They produce a distasteful steroid. Both adults and larvae glow as a warning sign.

Lightning Bugs are beneficial insects: The lightning bug larvae feed on other insect larvae, slugs and snails. They inject a poison into other insect larvae that paralyzes them and liquefies the victim’s insides. The lightning bug slurps out the insides leaving a hollow shell. Lightning bug larvae will track down snails and slugs by following their slime trails. Larvae will also scavenge dead animals and insects when no live ones are available.

Some adults feed on nectar or pollen aiding in plant reproduction. One lightning bug species may eat another lightning bug species (some are known to imitate the flashing pattern of another species to attract their next meal).

Why are Lightning Bugs disappearing? Lightning Bugs are not endangered or threatened. Disappearance of lightning bugs is a local or regional issue. No one knows for sure why the population of lightning bugs declines. Researchers think there are two major factors: habitat destruction and light pollution. Most lightning bugs live in moist environments. The larvae thrive in rotting wood and forest litter. Habitat destruction decreases the breeding grounds for lightning bugs. Growing light pollution interferes with lightning bugs flashing signals and reduces the next generation. The drought experienced during the past few years have changed the Lightning Bugs’ habitat. The loss of wet breeding grounds and wildfires reduced suitable environments for Lightning Bugs. The use of insecticides could also have an impact on the lightning bug populations.



Photo Credit: GCMGA Digital Library

Improving Lightning Bug Population:

- Turn off lights at night – Prevent interference with lightning bug communications
- Let logs and litter accumulate – Provides habitat and food source for lightning bug larvae
- Create water features in your landscape – Preferred moist environment for lightning bugs
- Minimize pesticide usage – Lightning Bugs are beetles, insecticide for beetle or grubs can kill lightning bugs
- Don’t over-mow your lawn – Tall grass provides hideouts for adults during the day
- Plant trees – trees like pines provide low light canopy

The magical sight took me back to my childhood, chasing lightning bugs on a summer night.

Addition information on lightning bugs can be found Galveston County Master Gardener publication “Beneficials in the Garden” by MG Linda Brown.

http://aggie-horticulture.tamu.edu/galveston/beneficials/beneficial-40_lightning_bug.htm

MG BEST SHOTS... *and Narrative*



Fig. 1 - Common Species of Robber Fly in Demonstration Garden



Fig. 2 - Another Robber Fly Species



Fig. 3 - A Lady Beetle Larva Going into Pupa Stage



Figure 4 - A Fully Formed Lady Beetle Pupa



Fig. 5 - Dung Beetle in Houston



Fig. 6 - Dung Beetle from Ken's Pasture

Photo Credits: MG Herman Auer, MG Margaret Canavan, MG Margie Jenke, William M. Johnson & Texas Parks & Wildlife

favorite beneficiaries of our Master Gardeners



By Robert Marshall
MG 2012



By Phil Cone
MG 2013



By Tim O'Brien
MG 2013



By Ken Steblein
MG 1992



By Alisa Rasmussen
MG 2011



By Bobby Anderson
MG 2014



By Kisha Murphy
2015 MG Applicant

Robber Flies (various species)

MG Robert Marshall (Class of 2012)

I was leading a garden tour at the MG Horticulture Demonstration Garden in Carbine Park this summer. Garden tours are provided for the public and I am asked lots of questions. We had just entered the vegetable beds section when a lady spotted a flying insect that landed on the wire netting installed around many of our vegetable beds for protection from rabbit damage. She asked me what it was.

It was a hairy insect with a tapered body about one inch long with wings. Its eyes were somewhat similar to those of a housefly. I didn't know the name of the insect off hand but it was our lucky day as Dr. Johnson was close at hand to answer. He said it was a Robber Fly (Fig. 1), a beneficial insect that preys on other insects.

Robber flies are among the few insects that catch their prey in mid-flight. They inject their victims (prey) with saliva containing neurotoxic and proteolytic enzymes. Robber Flies are not aggressive towards humans but their short beak can inflict a painful stab if handled roughly.

The larval stage of this beneficial insect overwinters in the ground or in dead wood feeding on other insects including grubs. Adult Robber Flies feed on a wide variety of flying insects including flies, moths (including the squash vine adult stage), beetles, swarming ants, swarming termites, and grasshoppers. Now, if we could just train them to feed on leaf-footed bugs.

Lady Beetles (various species)

MG Phil Cone (Class of 2013) & MG Tim O'Brien (Class of 2013)

During the 2014 summer season, we were in the process of removing some vines from some watermelon plants growing out of our plots at the MG Horticulture Demonstration Garden. We found what appeared to be some type of "bug" that got our interest. We didn't know what it was and it looked interesting so we showed it to Dr. Johnson. He said it was the pupal stage of a Lady Beetle and congratulated us for being observant. See Fig. 3 and Fig. 4 for examples of what to look for.

Most gardeners would likely list Lady Beetles if asked what is their favorite beneficial insect. Both Lady Beetle larvae and Lady Beetle adults feed on aphids, mites and other soft-bodied insects but the larvae are voracious feeders. Just as we almost did, we suspect most home gardeners would also likely overlook this stage of metamorphosis that all Lady Beetles go through. When you think about how many Lady Beetles can occur in any given landscape or garden, that's an indication of how many lady Beetle pupae that also occurred in any given area (Fig. 4). It helps to know the rest of the story—that's what we like about being a Galveston County Master Gardener.

Tumblebug or Scooped Scarab Beetle (*Onthophagus hecate*)

MG Ken S. Steblein (Class of 1992)

I nominate the Tumblebug or Scooped Scarab Beetle as my favorite beneficial insect as I live on several acres in Santa Fe, TX, and I have 10 miniature horses in my pasture. With that many horses (whether they are a miniature or large breed), it goes without saying that horse manure is a major issue. While Tumblebug or Scooped Scarab Beetle is a commonly used name for this beetle, lots of folks would know it by another common name: the dung beetle.

Dung beetles are very beneficial insects that are farmers and Mother Nature's best friend. If you are thinking that I selected the Rodney Dangerfield of beneficial insects, then you would be right. Let's face it, nominating an insect so closely associated with dung would be an up-hill battle to convince most folks to respect, much less appreciate. Yet, dung beetles are not only quite fascinating to watch in addition to playing an extremely important role in maintaining a healthy soil by recycling our natural resources. Dr. Sam Feagley (a Professor in the Dept. of Soil and Crop Sciences at Texas A&M, College Station and a regular lecturer for our MG Training Course) has taught Master Gardeners that a healthy soil is the foundation for the health of the plants and animals.

Dung beetles are fascinating creatures. Our North American species are seldom more than an inch in length, although one African species that processes elephant dung is 2.5 inches long. All are dark-colored beetles with club-shaped antennae, sometimes shiny and brown, green and orange (as shown in Figure 5, photo taken in Houston, TX, by Texas Parks and Recreation), or black in color (Figure 6 is a photo of a dung beetle, *Onthophagus Hecate*, from my horse pasture). They possess a sort of brush-like sieve mouth parts, for slurping wet dung. Males often possess a horn or tooth-like projection on their back.

The majority of dung beetles consume manure produced by herbivores which include horses, cattle, etc. I have experience with the ones that follow behind horses. Within hours after horse manure is dropped, the beetles migrate to a pile and start working. Within 24 hours you can visibly see how beetles have been working the pile by pulling the 100% organic dung into the tunnels they have created in the soil below where they lay eggs which will start the next generation of dung beetles.

In just a few days, all that remains of the original pile of horse dung is material that looks like peat moss and the material is safe to use directly in the garden. What better way to work horse manure into your yard or garden than letting the dung beetles do it for you? The beetles are keeping up with their duties in my horse pasture like champions of the Animal Kingdom!

A Dung Beetle's appearance is one that only another dung beetle can truly appreciate. As Rodney Dangerfield might say "Can we give the Dung Beetle a little respect?"

favorite beneficients of our Master Gardeners



Fig. 7 - A Common Species of Hover Fly



Fig. 8 - Hover Fly Larval Stage



Fig. 9 - Potter Wasp



Figure 10 - Clay Pots Constructed by Potter Wasp



Fig. 11 - Red Velvet Ant (Adult Female)



Fig. 12 - Red Velvet Ant (Adult Male)

Photo Credits: MG Herman Auer, MG Margaret Canavan, MG Margie Jenke, William M. Johnson & Texas Parks & Wildlife

Hover Flies (a.k.a. Syrphid flies and Flower flies) (various species)

MG Alisa Rasmussen (Class 2011)

Hovering, darting quickly and hovering again—even flying backward—the orange and black-striped abdomens of most Hover Flies might make you think they are military-trained wasps or bees. But they're actually one of the most abundant, under-appreciated beneficials in our gardens. The non-stinging adult stage only feeds on nectar and pollen of flowers and thereby serves as a major insect pollinator. It is the Hover Fly larval stage (Fig. 8) that is on the front lines controlling up to 70-100% of an aphid population on an infested plant by seizing prey, sucking them dry and discarding the skins. Hover Fly larvae feed aphids, thrips, scale, caterpillars and mealybugs. Hover Flies serve as free valuable biological control agents in our home landscapes.

So how do you identify them? Look for ravenous larvae near aphid populations on plants. With legless, maggot-shaped opaque bodies, up to one-half-inch long, they vary by species from dull green to brown but often sport a yellow stripe lengthwise on their back (Fig. 8). Most Hover Fly species in our area are small (slightly over ¼ inch) with a true fly head, having large compound eyes, short antennae and one pair of clear, veined wings (Fig. 7) which make a high-pitched humming sound when they fly.

Hover Flies complete a full metamorphosis (going through egg-larva-pupa-adult stages) in 3-9 weeks year-round in Galveston County. Overuse of insecticides can negatively impact Hover Fly populations. I recommend companion planting with white or yellow nectar-rich flowers to invite one of nature's best armies to fight your garden battles!

Potter Wasp (*Eumenes fraternus*)

MG Bobby Anderson, Jr. (Class of 2014)

After working on a Thursday morning in the MG Horticulture Demonstration Garden this summer, I along with my fellow Master Gardeners were served another delicious lunch. While sitting outside with several other Master Gardeners, we were "greeted" by an unusual black wasp with several distinctive ivory-colored bands.

The wasp nimbly navigated through a flurry of towel-swatting from my friends sitting at the table (no names will be provided to protect the innocent as we all were). The wasp remained undeterred in her efforts to land on one of two interesting clay pot-like structures it has constructed on the side rails of the chair I was sitting in.

After some research (a visit to our GCMG website on *Beneficials in the Garden and Landscape* was all that was needed), I discovered this to be a type of Potter Wasp (Fig. 9). This wasp was black with ivory bands and is known as a Potter Wasp (*Eumenes fraternus*).

The Potter Wasp is a beneficial insect as it paralyzes plant-eating caterpillars and some beetle larvae to serve as food for their developing young. The female collects one to twelve caterpillars (depending on size) per clay pot to serve as food for her young (only one larva per clay pot) to feed upon.

The clay pots constructed by Potter Wasps are about the size of a marble and are an architectural marvel to behold (Fig. 10). The female wasp begins by locating very moist (muddy) soil. Using her mandibles, she rolls a BB-size portion muddy soil which she carries back to deposit on the nest site to spread out and mix with saliva to increase its hardness. This tedious procedure involves repeated mud-gathering trips until an adobe-like round clay pot takes shape. When the structure is an appropriate size (big enough to accommodate one egg and enough food to sustain its growth) the female flies off to build additional marble-sized clay pot structures to the larder with even more caterpillars.

Originally, I was "invited" by Dr. Johnson to write this article because on the day mentioned I was sitting in the chair at the garden where the Potter Wasp was focused on her house building and Dr. Johnson was standing nearby observing the action.

I've come to appreciate the Potter Wasp as an interesting and industrious creature. Potter Wasps construct clay pot-like mud nests that are commonly found on exterior walls of buildings, on window sills and screens, and even on shrubs around the home. I later found five intact nests and six broken nests in one area along the brick exterior of the Galveston County AgriLife Extension Office. If you live in the County of Galveston, the State of Texas or Eastern North America, you too will likely have Potter Wasps at work in your gardens and landscapes—try to avoid swatting these beneficial insects.

Red Velvet Ant or "Cow Killer" (*Dasymutilla occidentalis*)

Kisha Murphy (Prospective Applicant for 2015 MG Class)

Sitting on my front porch one morning, I noticed a bright furry red insect quickly scurrying across the front lawn of my home in La Marque. I quickly grabbed a small container to capture it and I brought it inside to identify it. After researching it online, I found out it was a Velvet Ant.

Although the Red Velvet Ant is a harmless creature, it does pack a powerful sting when threatened.

While it is commonly called Red Velvet Ant, this insect actually is not an ant but a wasp. The Red Velvet Ant I collected that day (Fig. 11) was an adult female as adult male wasps have wings (Fig. 12).

Red Velvet ants are considered beneficial in that their larvae are solitary parasites of immature wasps (such as yellowjackets & bumblebees) and some other insects such as beetles and flies. I had bumble bees nests in my home landscape, so that's good news from my perspective. The flip side is that bumblebees can also play a beneficial role in controlling many insects that gardeners consider pests in addition to helping pollinate the flowers of many plants.

I brought my specimen to the Galveston County AgriLife Extension Office and they recognized it right off. They also gave me information about the Master Gardener program.

I have high hopes of becoming a part of the Galveston County Master Gardener Program in 2015, to learn to have success in my garden and help others with success in theirs. I was invited to write this narrative. If this was a preliminary assessment, I hope I measured up!



By Laurel Stine
MG 2005 & Administrative Assistant
for Horticulture

first record of a new beneficial insect for Galveston County

Cricket Hunter Wasps

When I returned from my vacation this past August, I beheld a large, 24-ounce jar of Claussen brand Kosher Dill Pickle Spears on my desk. Unfortunately for me, no pickles were to be had but the jar was half-filled with isopropyl alcohol and had “Cricket Hunter Wasp” inscribed on a paper note taped to the side of the jar. While jars with insects are a common part of my job (a fun and fascinating part I would add), the specimens inside were new to me.

A gentleman from Texas City came by the AgriLife Extension Office and initially submitted the mangled remains of three insect specimens in a zip lock plastic bag. We often get the “mangled remains” of insects especially when the person submitting the specimen is fearful of being stung!

The gentleman’s primary complaint was that they were “in his house—dozens of them.” Dr. Johnson wisely suspected that this was a new wasp species for our area and that it was not aggressive. He asked Texas A&M AgriLife Extension Entomologist Dr. Michael Merchant for identification.

Dr. Johnson got an excited reply from Dr. Merchant that the specimens were Cricket Hunter Wasps (*Liris beatus*). Wasps in the genus *Liris* are solitary wasps and they are important beneficial predators. Dr. Merchant was excited to learn that these wasps can now be confirmed to occur in Galveston County. While they are more common in north Texas, this was the first time we had encountered them here.

At Dr. Johnson’s request, the homeowner collected more insects in much better condition and voilà—the large pickle jar half-filled with alcohol and several Cricket Hunter Wasps in good condition appeared on my desk.

Cricket Hunter Wasps are occasional indoor pests in Texas. These solitary wasps are 1/2 - 5/8 inches long and dull black with dusky-colored wings. They spend much of their time searching for crickets, which they attempt to sting, capture and transport live to an underground hole. Much of their searching is done “on foot”, which scientists realized helped them get close enough to their victim to sting them. Crickets, especially larger ones, tend more to notice predators approaching from above.

After a cricket victim has been subdued and carried to a suitable shelter, the female Cricket Hunter Wasp lays a single egg on the hapless cricket. After hatching, the larva begins feeding immediately on its paralyzed cricket prey.

In urban areas, Cricket Hunter Wasps may construct nesting sites under or in the walls of buildings. For our particular homeowner, the entry point was through openings or weep holes in the brick walls.

Dozens or even hundreds of paralyzed crickets may be placed in

walls or under the slabs of buildings during the warm season leading up to fall. When this happens, the offspring of nest-building females may emerge into indoor rooms.

In one case, more than 100 wasps were counted from a single bathroom, apparently emerging from a slab opening under a bathtub.

Cricket-hunter wasps are seen most commonly indoors during warm weather spells in the winter or early spring. Infestations can be persistent and annoying. Though not normally aggressive, they can sting if provoked.

Cricket hunting wasps really have no food interest in homes per se, but their natural behavior and nesting preferences often entice them to enter structures and accidentally become pests. The best solution is prevention. Fill any holes or cracks in soil that might lead under the home. Seal openings, such as weep holes, that might provide access to wall voids.

Ventilation weep holes should be screened rather than caulked. Other cracks and gaps in walls should be sealed with expanding foam, mortar or other appropriate material. In severe cases, wall voids may be treated with pesticide aerosols or dusts; however, there is little evidence that this treatment works consistently. Adult wasps can be safely killed with a fly swatter or captured and released outdoors.

Whether we can identify them or not, beneficials play a significant role in keeping our insect pest populations under control. If we do not help them, let us at least try to not harm them.

**We often get the
“mangled remains”
of insects especially
when the person
submitting the
specimen is fearful
of being stung!**



Photo Credit: Dr. Michael Merchant

Cricket Hunter Wasps (*Liris beatus*)

Lady Bug, Lady Bug—Don't Fly Away



By Kaye Corey
MG 2002

Several years ago, I received a call while in an office in the meeting facility for Heritage Gardeners (Friendswood's garden club) from Mr. Gary Scogin, a Language Arts teacher at Friendswood Jr. High. He asked if he could bring his classes to the club's Briscoe Garden and release Lady Beetles. Of course we were happy to host the students in our gardens. The club members prepared cookies and punch for the students who would be attending at intervals throughout the day.

As students read aloud from a book that depicted a celebration of nature, classical Mozart was played and Lady Beetles were released into a garden. When the first group of students arrived, Mr. Scogin gathered them in front of me and announced, "Mrs. Corey is going to tell you about Lady Beetles." The only problem, Mr. Scogin had neglected to tell me I was to conduct the lecture on Lady Beetles.

Lady Beetles, more properly known as Lady Beetles, are familiar insects in our gardens. Fortunately, I lead a Junior Master Gardener (JMG) group and information about Lady Beetles was included in a chapter on insects in our JMG book. Fortunately, I was able to recall a few facts about the popular little garden beneficials. Afterwards, I made a hasty retreat to my computer to become more conversant about Lady Beetles before the following classes arrived in the garden.

Lady Beetles are generalist predators that feed on a variety of slow-moving, plant eating insects such as mealybugs, scale insects, mites, thrips and leafhoppers. A favorite prey of most, but all Lady Beetle species, is the aphid. The students covered the plants with the Lady Beetles from the package and some of the boys also happily managed to cover themselves. Approximately 1500 Lady Beetles were released into the gardens at intervals that day.

We were constrained by the students' class schedule on when the Lady Beetles could be released; so, the Lady Beetles were released throughout the day. Days later, few Lady Beetles could be found.

How do we keep Lady Beetles from flying away?

Ideally, Lady Beetles should be released in the evening or very early morning when it is cool or overcast so they move more slowly. Misting the Lady Beetles before release will provide them a drink that can keep them around longer. Repeated releases two to three times a week apart is recommended.

The life cycle of the Lady Beetle is between four and six weeks. In

the spring, the female adults lay up to three hundred eggs. The eggs are yellowish ovals, laid on end in clusters of 10 to 50. They hatch into a larval stage in 2 to 5 days and feed on the aphids (or other insect prey). The larvae are typically black, with conspicuous legs and orange spots on their backs. The newborn larvae look a little like tiny alligators and molt as they grow. After 21 days (depending on temperatures and food availability), the larvae enter the pupa stage. The pupa (looks like a miniature shrimp) attaches to a leaf and seems to fall asleep. In about 7 days, the adult Lady Beetle emerges. The Lady Beetles usually don't have their spots for about 24 hours.

There may be as many as six generations of Lady Beetles hatched in a year. Temperature and food availability will determine the timing of each stage and reproductivity. One female can lay up to 1,500 eggs over her lifetime. The male Lady Beetle is smaller than the female. Most Lady Beetles only live for one season. But some hibernate under logs, tree bark, or in a house until the next spring. They cannot fly when temperature drop to 55°F or lower.

There are nearly 5,000 different species of Lady Beetles worldwide and 400 live in North America. Many are red with black spots on the forewings, but some are black with yellow or red spots. Common names include two spotted, nine spotted, striped, and three-banded. Whatever the name, they will be symmetrical on each side.

Lady Beetles produce a chemical that smells and tastes terrible so that birds and other predators don't eat them. They have hard shells that protect their wings to deter predators. Lady Beetles will also "play dead" when in danger because many predators won't eat an insect if it doesn't move. Pesticides and even wetting agents and spreader-stickers may adversely affect Lady Beetles survival. Broad spectrum and systemic insecticides can be quite harmful to Lady Beetles.

The commercial raising of Lady Beetles is not cost effective in insectaries due to the amount and cost of food it would take to produce an adult Lady Beetle. Large numbers of Lady Beetles migrate to mountain canyons from feeding areas in the fall to hibernate. They hibernate in groups of 50 – 100 million to produce and conserve warmth. They are collected from these overwintering sites to be sold throughout the country. They are refrigerated until sold. You can purchase Lady Beetles from local nurseries or from the Internet.



Photo Credit: MG Margaret Landers



By Donna J. Ward
MG 1996

Fall means different things to different folks. To a youngster it means pumpkins, ghosts, and treats. To a gardener it means relief from summer's heat. But fall doesn't mean sitting on your deck and taking in the view. The lethargy brought on by summer's heat hopefully has given way to fall's unchecked energy. You should be in the garden, shovel in hand dividing spring and summer flowering perennials such as daylilies, iris, phlox and cannas.

Nurseries have oodles of bulbs available, and some of them need to be pre-chilled for at least 6 weeks before planting. Put bulbs of crocus, tulips and hyacinths into a brown paper bag and put them in the refrigerator. Be sure to keep them away from the fruit bin, as the ethylene gas given off especially by apples will cause them to rot.

Then on Halloween you can plant the crocus along with Dutch iris, anemones, ranunculus and freesia. After Thanksgiving dinner plant the hyacinths and some daffodils; after Christmas dinner plant the tulips. If you're too stuffed to plant tulips on the 25th, wait until New Year's Day—provided however you're feeling up to it after last night's celebration.

And if you look forward to those early spring blooms, this is the month to sow seeds of poppies, snapdragons, larkspur and calendula.

It's time to assess our home's curb appeal and add new plantings or replace old ones. Any realtor will tell you that an attractive landscape can increase your home's value by thousands of dollars.

If you love a southern magnolia, but can't devote that much space to a flowering tree, consider the "Little Gem" magnolia. It's a more petite version of the southern variety, but has smaller leaves and flowers, and tops out at approximately 15 feet.

The Chinese fringe flower sports pretty purple foliage and delicate pink flowers in spring. This evergreen shrub will grow large, so plan accordingly.

Holly comes in various sizes and shapes; its shiny leaves and red berries add to its attractiveness, and its dense growth also provides cover for feathered visitors.

If you're looking for a focal point in a woodland setting, you may want to seek out a *Magnolia soulangeana*. It's deciduous, and before leaves appear in the spring, this small tree's bare branches are covered with single, pink tulip-shaped blossoms.

If it's aroma you're after, coupled with an attractive shrub, you'll love the Texas mountain laurel. Panicles of purple blossoms appear in spring and their fragrance can only be described as grape Kool-Aid. This shrub can thrive under xerophytic (low moisture) conditions and in an alkaline soil. Eventually it will grow into a small tree, but at a very slow pace.

The pineapple guava's silvery new growth and peeling, reddish-

brown bark is just a couple of the attributes of this handsome shrub. The red and white flowers eventually produce fruit from which a delicious jelly can be made—if you get any fruit. The squirrels and birds that visit my garden love the sweet taste of the flowers—no guava jelly being made in my kitchen.

Remember to always read the tag attached to any plant.

It contains the plant's name, eventual size, exposure, and quite often a photograph of a mature specimen.

If the Old McDonald in you is itching to plow up the south forty, seeds of beets, lettuce, mustard, peas (both English and snap), spinach, radish, pumpkin and turnips (yuck), should go in now—and transplants of cabbage and broccoli.

Hello Fall, welcome to our garden. . . .

You should be in the garden, shovel in hand dividing spring and summer flowering perennials such as daylilies, iris, phlox and cannas.



THE ISLAND GARDEN

The Fall Farmer

(Editor's Note: This is a reprint from Jan's article in "The Islander" magazine.)



By Jan Brick
MG 2001

If the local garden centers have not already stocked in the fall garden transplants, they will very shortly! Check them out—or start your fall garden with seeds that are always plentiful.

In a recent article concerning fall gardens, Galveston County Extension Horticulture Agent, Dr. William Johnson stated that “Experienced gardeners know that late summer and fall weather favors more productive growth than the harsh spring climate. Not only does the taste of many fall grown vegetables excel that of many spring crops, fall gardening can reinvigorate the spirit.”

He also mentioned that “many vegetables will have a longer harvest period than those planted in spring as they mature during the cooler temperatures of the fall season in contrast to spring crops maturing as the summer heat sets in. In fact, fall grown vegetables have better flavor and are of higher quality than spring crops.”

With the anticipated cooling in the weather, we already should have been working on our garden beds, preparing them for the fall vegetable season. We have removed all dead vegetation of course, added compost from the supply that we have been working on as we added the refuse from the spring and summer harvests, worked in the manure and other fertilizers, turned the soil with our handy-dandy tiller and let it all rest as we awaited planting time. It has arrived—so ready, set, plant!

Meanwhile, let us consider the crop—we all have our favorites of course and as acknowledged above, the fall of the year is very nearly an even better point in time than the spring to experience the thrill of growing, harvesting and consuming your own foodstuff, let's get started.

The basics are the same as dealing with spring vegetable gardens: well prepared and good draining garden soil, good quality seeds or healthy transplants, fertilizer, mulch, sunshine and water.

The use of a garden diagram is helpful as well as consideration of the full-grown size of the plants to estimate the amount of space needed—try not to plant a garden larger than you can manage easily.

This is the season for frost-tolerant crops such as broccoli and cauliflower, cabbage, carrots, lettuce, peas and radishes, spinach, turnips as well as many others.

Follow a planting guide to ensure a good crop of vegetables for a longer period of time and to ensure as well that everything produces gradually and not all at once! See the chart to the right with suggestions that may assist in achieving that goal.

Ray Sher, a gardening, vegetable and fruit garden consultant who works his large home gardens using organic methods asks the question, “How many different vegetables have you eaten in your lifetime? I bet it's not ninety-four. Yes, we can grow ninety-four vegetables in the metro Houston and Galveston area, and probably more.

The next time you are at the grocer, count the number of fresh vegetables that are being offered.

Now, I have to admit I have not grown or eaten all of the vegetables we are so fortunate to be able to grow, but I have at one time or another grown and eaten at least ninety of them. I choose not to grow some again, either because of limited productivity or because I don't especially like the taste or texture.

However, the luxury to grow and include in my diet the diversity that is available is not only a gourmet cook's dream, but a reality for all of us who have a small sunny spot in our yards or a little effort to join a community garden.

I love fall gardening, for it is the season of greatest diversity and it includes all the green leafy vegetables. I can't wait to have freshly picked kale, collards, beet greens, Swiss chard, mustard greens or dandelion cut up and tossed at the last moment into a stir fry, giving a different taste and texture with each stir fry; or roasted beets and fennel; or shredded turnips, beets and carrots in my lettuce, endive, escarole and arugula salad.

Having a ready supply of vegetables growing in my garden gives me what seems like an opportunity for infinite recipes, and I take full creative advantage. Now that I have my taste buds drooling, I think I need to step into the garden and plant a few seeds.”

If your natural aptitude does not include a green thumb or an interest in working the soil, but you do enjoy home grown produce, visit one of the several community gardens or farmer's markets to purchase the bountiful harvests that are offered there at very reasonable prices. Enjoy the rewards without any effort!

Photo Credit: GCMGA Digital Library

FROST-TOLERANT VEGETABLES

Broccoli:

plant transplants from September to January

Cabbage:

seeds may be planted from August to November

Carrots:

seeds from mid-October to November

Cauliflower:

plant transplants from September to January

Garlic:

plant clove in late September to mid November

Lettuce:

seed or transplants from late September to December

Onion:

plant transplants from mid October to November

Radishes:

seeds from September to November

Spinach:

seeds or transplants from October to November

Turnips:

seeds from September to November



By Donna J. Ward
MG 1996

INTERVIEW WITH A DRAGONFLY

Along a Texas Gulf Coast Bayou

MG: Hello, I'm with the Galveston County Master Gardener Newsletter staff, and it's our understanding that you have consented to this interview. Is that correct?

DF: I ain't got nuttin else to do.

MG: Good, and thank you. Then we can commence with the interview. Do all dragonflies along this bayou wear a red suit similar to yours?

DF: Nah, just me. I kinda like to stand out from all dem other residents. Some guys wear black, yellow, blue, and of course basic black, but me, I'm *Gentleman's Quarterly* material.

MG: Yes, uh, obviously. You've been called an "agile, carnivorous predator" and it's said that you can calculate three things during a hunt—the distance from your prey, the direction it's moving, and the speed it's flying. Also, that you have the ability to fly forward, backward, up, down, and even hover. Is that correct?



Photo Credit: MG Helle Brown

Roseate Skimmer Dragonfly - a.k.a. "Killer"

DF: You betcha, ain't no better flyer than me. I'm good at what I do. Ain't no bug got a chance when I'm hungry, which is just about all da time. My eyes wrap round my head like an astronaut's helmet. I'm waiting to hear from NASA but it's kinda slow down there right now. I can see da world with a 360 degree view, and I ain't got no blind spots neither. Any frog that thinks he can come at me from behind or underneath gets nuttin but a mouth full of air. Me—I can strike from any direction. I bend my legs into a basket shape and scoop up mosquitoes, gnats, moths and flies on the wing before dey even know I'm in da neighborhood.

MG: It's been reported that you are probably 95 percent successful in catching your meal choice. Can you comment on that estimate?

DF: Ya talkin' to me? !!! C'mon - it's probably more, and if you want to see some real killing machines, you should see when I call in a bunch of my buddies to take out an aerial swarm of ants or termites on da move—fast, high protein food to fuel my muscles!

MG: Many find it difficult to know the difference between you and a damselfly. Can you give me some specifics?

DF: No problem. We both got four wings, but I'm really built—kinda stocky, ya know? Damselflies are skinny, a bunch of wussies—know what I mean? I'm mostly on the move, doze guys more often than not just sit around with their wings folded over their body. Me, I spread my wings out so everybody can see and enjoy. When ya got it - flaunt it!

MG: Thank you Mr. Dragonfly. I appreciate you taking the time to speak with me.

DF: I can make time for you any day—just ask for "Killer." You gonna put a picture of me styling in your *Gulf Coast Gardening* newsletter?

MG: We certainly will do so in appreciation for doing this interview and for all you do to help control mosquitoes and other insects in our gardens.

Project: Demonstration Gardens

Carbide Park



*By Tom Fountain
MG 2008*



Photo Credit: MG Tom Fountain

We may have had a summer of near normal temperatures, but the high humidity has pushed our "feel like" temperatures well into the 100's. Rainfall is still below normal for the year, though we are no longer considered in a drought. The rainfall and humidity that has helped our plants grow has also produced a bumper crop of mosquitoes, so be sure to bring a good mosquito repellent to the garden with you until they are gone.

With the kids back in school, and the first cold front already pushing through Texas, it's time to get that fall garden started. Most of the gardening beds are ready and many have already been planted. By the way, did you know our garden has already produced more than 1,200 pounds of food for local food pantries so far this year? There are lots of other projects going on in our garden so Master Gardeners, come on out and lend a hand—we will be happy to see you.



The greenhouse project is dried in and continues to develop. Pictured above are Henry and Stuart working through some the engineering ideas with Alice. Phil of the Cooking Crew enlisted Bob to bring a watermelon (which Phil had raised) into the kitchen for one our luncheons.

Recently we had some distinguished visitors come through our garden. Pictured with Dr. Johnson are Ken Clark and Ryan Dennard, two of our Galveston County Comissioners. The tour was led by Clyde and Henry. Visitors are always welcome to the garden on the first Thursday of each month, so come on by.



Tish in the peach shirt and Alisa in the blue shirt (see photos to the left) are our constant gardeners in the "Serenity" and "Low Water Use" garden area. They keep their plants looking amazing with some help from other Master Gardeners.





by Sandra Gervais
MG 2011

for our wealth of garden produce, we are thankful

Seasonal Bites

Cooler weather is now approaching, and the leaves are beginning to fall. Maybe the temperatures will even start to fall so we can start thinking about the holiday season and recipes for heavier, heartier food.

In south Louisiana, where rice is a main crop, holiday turkey is served with "rice dressing." Because of the color, it's sometimes called "dirty rice." Call it whatever you want, make it as spicy as you want, it's still a favorite holiday dish. If you're lucky, you can get "dirty rice" at Mom and Pop restaurants in Louisiana during the rest of the year.

Below is an easy recipe for "dirty rice" that I got from a school potluck supper in Louisiana many years ago. We enjoyed it so much that I was determined to go home with the recipe. And I did! It's easy, versatile and forgiving. We make it a lot during the holidays as a tasty way to use up leftover meats and vegetables. It's also a good dish to bring to a potluck dinner. And of course, it's yummy with turkey.

Easy Dirty Rice

- 1 lb. ground meat cooked loose and drained (ground beef, ground turkey, ground venison,)
- 1 cup long grain rice, raw
- 1 can of French Onion soup, straight from the can
- 1 can of Cream of Chicken soup, straight from the can
- 8-12 oz. smoked sausage (Eckrich, Hillshire Farms, etc.) finely chopped.

Seasonings to taste: black pepper, cayenne, garlic powder (1/8 to 1/4 teaspoon to taste), Worcestershire Sauce (1-2 tablespoons). **Note: Never add salt; the canned soups and sausage have plenty!**

Now if you want to get creative and want to use any of these leftovers you might have on hand, add:

- 8-10 oz. of coarsely chopped leftover turkey, chicken, roast beef or pork,
- 1/2 cup red and green peppers,
- 1/4 cup green onions, or
- 1/4 cup cooked peas and/or carrots,
- some chopped jalapeño, etc.
- 1/2 cup mushrooms,

Mix all together. If a lot of extras have been used, add a little water, up to 1/4 cup. It should look moist but NOT soupy. Put into a Pam sprayed 9 x 13 dish. Cover tightly with foil. Bake at 350 degrees for about 1 hour. You may want to check it at 45 minutes. If you can hear it continuing to cook or if it remains very wet on top, replace cover and cook an additional 15 minutes or until top is smooth and water is fully absorbed. Let it sit covered for about 15 minutes before serving.

Note: Extra sausage links can be split and put on top before cooking. It then becomes a main dish and makes a great meal with just a good green salad. Serves 6-8



This is the recipe for the dessert that everyone loved at the recent October Plant Sale. Many thanks to all the ladies who worked so hard to cook and clean and serve everyone. The food was delicious as always. Thanks again to the Kitchen Krewe.

Pumpkin Pecan Dump Cake

- 1 can (15 oz.) solid pack pumpkin
- 1 can (12 oz.) evaporated milk
- 1 cup packed brown sugar
- 3 eggs
- 2 teaspoons pumpkin pie spice
- 1/2 teaspoon salt
- 1 yellow cake mix (about 18 oz.)
- 3/4 cup (1-1/2 sticks) butter in thin slices
- 1/2 cup pecans

Preheat oven to 350 degrees., Spray 9 x 13 pan with non-stick spray.

Combine pumpkin, milk, brown sugar, eggs, pie spice and salt in a medium bowl. Stir until well mixed. Pour into prepared pan.

Top evenly with dry cake mix. Cover mix with butter slices, covering surface as much as possible. Sprinkle with pecans.

Bake 1 hour or until toothpick inserted into center comes out clean. Cool completely before serving.

May these easy recipes make the holidays a little easier on everyone.



By Cindy Croft
MG 2009



By Mary Lou Kelso
MG 2000

MINUTES MONTHLY MG MEETINGS



Galveston County Master Gardener Meeting Minutes August 12, 2014

Held at Moody Gardens, the Master Gardener meeting for August had a great location. Thank you to MG Mary Lou Kelso for coordinating the all-day event which started early and ended after the sunset. Master Gardeners participated in attractions which included the Rainforest Pyramid, a tour of the greenhouse and 3-D movie to mention a few.

Another thank you to all of the staff at Moody Gardens that worked to make our meeting special. Dinner was enjoyed at the Garden Restaurant; then everyone hurried over to The Moody Gardens Hotel and up to the 9th floor for desert and a spectacular view of sunset over Galveston Bay. Business was not conducted at this meeting.

Galveston County Master Gardener Meeting Minutes September 30, 2014

The September meeting of the GCMGA was called to order by MG John Jons (Chair of the GCMG Association). This meeting was to discuss the Ornamental and Perennial Sale scheduled for Saturday, October 11. John reported that 130 perennials would be for sale. Additionally, this year, Smith's Nursery was also supplying vegetable plants in 4" pots that are 4 to 6" tall. Fruit trees are also to be sold that are growing in 3 gal. size containers.

John explained the problem with "citrus greening" disease with the citrus trees and the fact that they are not allowed to be sold outside of Harris County. So, it was necessary to find a new supplier. Herbs were going to be featured at the sale with many of the plants grown by Master Gardeners.

It was hoped that incorporating vegetable plants (\$2.50 each) and citrus would increase the revenue for the sale. In the past, our profit derived from this sale is so much lower than that of the Fruit Tree sale.

This year the decision was made that there would be no preorders by Master Gardeners and that MGs could start purchasing plants after 1pm on Saturday with a discount to be determined at that time. It was hoped that everyone would comply with the new guidelines.

After the meeting, John gave a PowerPoint of some of the plants that he would be showcasing to the public on the plant sale morning, since Heidi would be unable to attend.

Galveston County Master Gardener Meeting Minutes October 14, 2014

The monthly meeting of the GCMGA met in League City at the home of Dr. Leslye (MG 2005) and Mike Mize.

President Ira Gervais thanked everyone for attending and reported the results of the October Fall Plant Sale. On Thursday, October 16, the remaining plants were going to be in the Demo Garden for anyone who still wanted to purchase anything with guests being invited at a discount of 25 per cent. The plants were going to be returned to TreeSearch Farms on Thursday afternoon.

Ira thanked all the workers for their help at the sale and also reported in November that two of the Board of Directors positions would be up for election (the positions are held by Ken and Dottie). Additionally, three VP for Programs were opened (Robert, Judy and Penny).

Clyde Holt gave the blessing before the meal.

Mikey Isbell announced she brought cuttings from her pink plumeria plant.

2014 Recertification (Continuing Education) Hours Available Through the AgriLife Extension Office



Date	Name of Program	Speaker	CEUs for MGs
1/4/2014	Growing Avocados & Papaya	Jerry Hurlbert	3.25
1/4/2014	Grafting Your Own Fruit Trees	Herman Auer	2.25
1/7/2014	Successfully Growing Peaches	Herman Auer	1.5
1/11/2014	Spring Vegetable Gardening	Luke Stripling	2.5
1/17/2014	Grow Great Tomatoes (for MGs only)	Ira Gervais	2
1/17/2014	Growing Citrus in the Home Landscape (for MGs only)	Chris Anastas	1.75
1/18/2014	Planting Fruit Trees	Herman Auer	2
1/20/2014	Fruit & Citrus Trees for the Gulf Coast (MGA Meeting)	Heidi Sheesley	2
1/21/2014	Anyone Can Grow Roses	John Jons	1.5
1/25/2014	Grow Great Tomatoes	Ira Gervais	2
1/25/2014	Growing Blueberries	David Cohen	2
1/28/2014	Growing Citrus in the Home Landscape	Chris Anastas	1.5
2/4/2014	Gardening by the Square Foot	John Jons	1.5
2/8/2014	The ABCs of Home Composting	Ken Steblein	2
2/8/2014	Kitchen Gardening	Mary Demeny	2.25
2/11/2014	The Evolution of the North End Garden (MGA Meeting)	Tish Reustle	1
2/13/2014	Rose Pruning for the Home Gardener	John Jons	0.75
2/13/2014	Pecan Graft Wood Collection	Herman Auer	2.5
2/20/2014	Rose Pruning for the Home Gardener (MG Interns)	John Jons	1
2/22/2014	Heirloom Tomatoes	Terry Cuculis	1.5
2/25/2014	Honey Bees Around the Garden	Stewart McAdoo, Robert Marshall	1
3/1/2014	Texas-Tuff Plants for the Home Landscape	Sandra Devall	2.5
3/4/2014	50 Ways to Live a Greener Life	Ken Steblein	1.5
3/11/2014	Tool Talk (MGA Meeting)	Henry Harrison III, Tim Jahnke	1
3/15/2014	Bonsai for Beginners	Clyde Holt	3.75
3/20/2014	Fig Pruning for the Home Orchard	Terry Cuculis	0.5
3/20/2014	Peach Tree Fruit Thinning	Herman Auer	0.5
3/27/2014	Peach Tree Fruit Thinning	Herman Auer, Robert Marshall	1.5
3/29/2014	Tomato Stress Management	Ira Gervais	2
4/5/2014	Gardening for Jewels ... Hummingbirds	Deborah Repasz	1.5
4/7/2014	Irises for the Gulf Coast Garden (for MGs only)	Monica Martens	0.75
4/15/2014	The Culture & Care of Palms	O.J. Miller	1.75
4/17/2014	Spring Pecan Field Day	Jim Hall, Herman Auer	1.5
4/29/2014	The Joy of Daylilies	Neil Shimek	1.25
5/6/2014	Irises for Gulf Coast Gardens	Monica Martens	1.5
5/10/2014	Rainwater Harvesting	Tim Jahnke	2
5/22/2014	Peach Tree Pruning for the Home Orchard (for MGs only)	Herman Auer, Robert Marshall	1
5/23/2014	Preserving the Harvest - Water Bath & Pressure Canning	CEA Sharon Trower	3
6/3/2014	The Fabulous Fragrant Frangipani (Plumeria)	Loretta Osteen	1.75
6/7/2014	Tomato Tasting and Evaluation	Terry Cuculis	3
7/8/2014	Care of Drought Stressed Trees	Heather McKnight	1
7/19/2014	A Homeowner's Guide to Weed Control	Anna Wygrys	2.25
8/15/2014	Permaculture for Master Gardeners	Dana Crawford	1.5
8/16/2014	Successful Fall Vegetable Gardening	Luke Stripling	2.75
8/19/2014	Gardening by the Square Foot	John Jons	2
8/20/2014	Backyard Strawberries (for MGs only)	Robert Marshall	0.75
8/22/2014	Plant Propagation by Cuttings (for MGs only)	Bill Cummins	1
8/26/2014	Backyard Strawberries	Robert Marshall	1.25
9/6/2014	Plant Propagation by Cuttings	Bill Cummins	1.5
9/13/2014	Growing Onions and Garlic	Ken Steblein	2.25
9/13/2014	Kitchen Gardening	Mary Demeny	2.5
9/17/2014	Easy Butterfly Gardening (for MGs only)	Phyllis Koenig	1.25
9/20/2014	Texas-Tuff Plants Landscape Plants	Sandra Devall	2
9/20/2014	Fall Grafting of Citrus & Fruit Trees	Herman Auer	2.25
2014 Recertification Hours for MGs Last updated: 23 September 2014			Total CEUs (Hours) 94.25

Reminder: In order to maintain your status as a certified Texas Master Gardener, each year you must complete a minimum of 6 hours continuing education, as well as 12 service hours. Additionally, those hours must be reported using a volunteer hours log

Upcoming Events

Please be sure to register for the programs you want to attend. Accurate attendance counts are needed so that program materials may be on hand for attendees. The following AgriLife Extension Programs are free to the public..

Location: Galveston County AgriLife Extension Office in Carbide Park

4102-B Main Street (FM 519), La Marque, Texas 77568

For course reservations, call 281-534-3413, ext. 12 or email GALV3@wt.net

Thursday Night & Saturday Seminars

GROWING TOMATOES FROM SEED

Saturday, December 6, 2014

9:00 - 11:30 a.m.

Do you want to learn how to grow great tomatoes? The first in a series of programs by Galveston County Master Gardener Ira Gervais on learning all about how to grow great tomatoes here in Galveston County. This first part will cover learning how to grow tomatoes from seed and where to obtain seeds and supplies needed to start and grow your seedlings. Discussion topics include how to pick the best varieties for Galveston County, seed starting and growing techniques and preparing your starter plants for garden planting.

TEXAS UPPER GULF COAST CITRUS SHOW

Thursday, December 4, 2014

6:30 - 7:00 p.m.

7:00 p.m. - Awarding of the Rosettes

Citrus grown by local gardeners will be on display for the general public. Rosettes and ribbons will be awarded to the best quality entries. Home citrus growers are encouraged to enter any type of citrus fruit for judging. Details, including dates and times for entry submission will be available at <http://aggiehorticulture.tamu.edu/galveston/>

TEXAS UPPER GULF COAST CITRUS SHOW

Thursday, December 4, 2014

7:15 - 8:00 p.m. - EDUCATIONAL PROGRAM

As a continuation of the Citrus show a presentation by Monte L. Nesbitt, Texas A&M AgriLife Extension Program Specialist, will give an update on the Citrus Greening issues in Galveston County and surrounding counties. He will also cover the topics of citrus variety selection and establishment, production, and pest problems. (Pre-registration for this program is not necessary.)

AGRILIFE EXTENSION OFFICE OPEN HOUSE

Thursday, December 11, 2014

11:00 a.m. - 3:00 p.m.

Meet all the County Extension Agents and administrative staff in Galveston County, learn about the many programs offered through this office. Displays of volunteer projects and program information. Master Gardener Volunteers will be on hand to answer questions and will provide tours of the Horticulture Demonstration Garden.

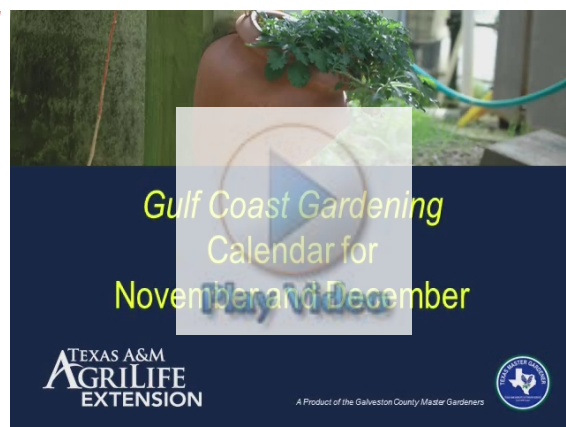
November/December "Things To Do" Gardening Calendar Video



*by Jenifer Leonpacher
MG 2010*



*by Gregory Werth
MG 2012*



Click on the "Play Video" icon (above right) to see what a "group effort" can do (by the aforementioned Master Gardeners) to prepare an exceptional "Things to Do" Calendar.



By Laura Bellmore
MG 1992

a well-deserved

Three Cheers

I enjoy writing this column for our newsletter, when time and space allows me to do so, and because there are so many incredible volunteers in the GCMG organization I am not hard-pressed to choose one or two for the Three Cheers column!

I would like to give a shout out to Ken and Camille Goodwin in this newsletter issue. Camille has been a Master Gardener since 2008. She quietly works in the background in many volunteer capacities—she serves on our MG Newsletter Committee, works as a cashier at our two major plant sales, tends the Serenity Garden in our Demonstration Gardens and writes articles for our MG website as well as this newsletter, to name just a few of her volunteer roles. Her husband, Ken, although not a Master Gardener, also willingly takes on volunteer duties in many areas.

Dr. J and I were discussing how to bring another educational value to the Demonstration Garden. We landed on the topic of weather stations. I said “Ken and Camille have a weather station. I have that station bookmarked on my home computer. It shows all kinds of cool weather data.” Dr. J was intrigued. The phone call was made to Ken, and after some conversations with Dr. J about what was wanted and how it could be setup, he took the task and ran with it!

Both Ken and Camille played pivotal roles in setting up the weather station in our Demonstration Garden. If you worked in or just paid a visit to our Demonstration Garden in Carbide Park during late September and October of this year, you may have seen Ken and Camille installing the new Davis Weather Station. Ken is a NASA engineer by profession and he accepted this admittedly very

low-orbit based mission with characteristic zeal. He continued to work on the calibration of the software at the Extension Office during our fall plant sale. He and Camille were both involved in setting up the hardware (soil moisture and soil temperature probes) in one of the vegetable beds in addition to other hardware (anemometer, temperature, and rain sensors) on top of a gazebo in the Demonstration Garden just before a thunderstorm!

Thanks to all their efforts the weather station is active, and we're on the weather map! A well-deserved *Three Cheers* recognition to Camille and Ken! Refer to page 27 for additional information on current weather data collected and reported by the weather station.



bulletin board

VOLUNTEER OPPORTUNITIES

To volunteer for the **MG Phone Desk** contact Laura Bellmore by e-mail at galv3@wt.net or by calling the office at 281-534- 3413, ext 1.

Libbie's Place Adult Day Care has been designated as a Demonstration Garden for the Master Gardener Association. It is located at 5402 Avenue U in Galveston and is part of Moody Methodist Church outreach ministries (<http://www.moody.org/libbies-place-senior-day-program>). A crew is needed to maintain and upgrade the garden as needed with your time spent counting towards MG volunteer hours. MG Pam Windus is heading up the crew and will determine the day, time and frequency of the work days. If you are interested, or have any questions, please contact Pam at 409-771-5620 or by email at DrPGilbert@aol.com to let her know the day/times (AM/PM) that would work best for you. Thank you for your time and consideration in this great new endeavor for the Master Gardeners.

VOLUNTEERS NEEDED

Tour Guides for "First-Thursdays-in-a-Month" Public Access & Tour of our Demonstration Garden

Long-winded title but it says what we will be doing. Our Demonstration Garden will be open for touring by the general public on the first Thursday of each month from 9:00 to 11:00 a.m. MGs are needed to serve as tour guides for our demonstration Garden. Contact MG Julie Cartmill at 281-932-8896 or email evergreentreesinc@gmail.com or MG Bobbie Ivey at 713-748-8564 or email at blivey@sbcglobal.net to volunteer. **Volunteers are needed to help with the Saturday programs and the Tuesday evening programs.** If you can help please contact Christine Anastas (281) 468-3787 or Robert Marshall e-mail rbrtm01@att.net

AgriLife Extension Office Demonstration Garden needs volunteers! The gardens around the AgriLife Extension Office are maintained by Master Gardeners under the team leadership of MG Peggy Budny. This is an opportunity to make a good impression on the many visitors to the AgriLife Extension Office. Come out and have a good time while learning more about ornamentals. Please contact Peggy at 281-334-7997 or by email at fmbmab@verizon.net to find out the schedule and join her team.

SPECIALIST & OTHER MG RELATED TRAINING

Please see the Texas Master Gardeners Website for details. Please note that if you go to the website you can find up-to-date information on Specialist Programs that were added in between editions of the newsletter. <http://txmg.org>. You may download the application forms from that website. Note that all applications for the Specialist Training courses must be approved and signed by Dr. William Johnson. Note that fees do not include lodging or food unless specified otherwise.



<http://www.weatherlink.com/user/gcmga>

GCMGA WEATHER STATION IS NOW ON THE WEB!!

If you've been out to the garden lately, you may have seen Ken & Camille Goodwin installing the new Davis Weather Station. The station is posting current Carbide Park data on the Internet at: <http://www.weatherlink.com/user/gcmga>. You can add this link to your computer or smart phone. Data collection time is shown at the bottom of the web page. For insight into all the weather parameters including a number of derived parameters (heat index, wind chill, dew point, etc.), click on the summary menu item at the top right side of the WeatherLink web page. This displays all the data collected at the Demonstration Garden along with the Today Highs and Lows.

Additional parameters are Inside Temp/Humidity (if you're interested in Dr. Johnson's office weather where the data console is located), Solar Radiation, UV Radiation, the 12 Hour Forecast and soil temperatures/soil moistures of the four sensors located in the Demo Garden. Another interesting feature is the Map feature (again in the top right side of the WeatherLink web page). The resultant map allows one to see all the Davis weather stations around the world and drill down into all the current data collected at each weather station (just click on the location of interest). The GCMGA Weather Station will archive all of the data at 30 minute intervals which will be stored on the computer in the Volunteer Work Room. If you are interested in analyzing the data in detail (plots, strip charts, etc.) the WeatherLink software can probably do it all. The software is installed in the Volunteer Room or available for use on one's computer just by asking for a copy of the software and the collected data to date. The GCMGA Weather Station also sends its data to the Citizen Weather Observer Program (CWOP) for use by NOAA's Global Weather Division. The Davis Instrument Corporation's web site (<http://www.davisnet.com/weather/>) is a convenient and free source of all the equipment documentation along with an associated Knowledge Base of application notes and white papers.

the last word . . .

THE GOOD AND BAD OF INSECTS

(Editor's Note: This article is a reprint of Dr. Johnson's Weekly Gardening Column in The Galveston County Daily News)



By Dr. William M. Johnson CEA-HORT
& MG Program Coordinator

William Cowper, an 18th century English poet, is credited with the following quote: "I am monarch of all I survey, my right there is none to dispute ..."

I admit to taking on a similar self-centered perspective of "I am master of my landscape and things therein" when walking through my home landscape.

However, that attitude was strongly challenged at 6:23 p.m. Thursday. Another character had assumed a similar attitude, although she surveyed a more limited area of real estate but it was still within my real estate.

This character had six legs, two wings and packs a stinger. Entomologists call this insect *Polistes exclamans*. They are commonly called paper wasps by most homeowners and, yes, they can sting. Most folks have experienced the sting of a paper wasp at some point in their life, either when a kid or as an adult. Either way, it was not likely a pleasant feeling.

Of all the insects that you might encounter in a home landscape or garden, none evoke a more visceral, negative reaction. I most certainly had bad thoughts—even some unprintable thoughts—at 6:23 p.m. Thursday. Even so, I still remain an advocate for paper wasps, for I know their value as beneficial insects.

When the term beneficial insect is mentioned, lady beetles or ladybugs are most likely what most gardeners will think of. Many other types of beneficial insects are at work in just about every landscape and garden. It's just that most folks are not likely to recognize myriad variety of beneficial insects that occur in our landscapes and gardens.

Check the Master Gardener website listed with this column to learn more about beneficial insects in our area. Paper wasps are beneficials, although on occasion they make it difficult for me to advocate for them. I digress, so back to my reality column regarding my encounter at 6:23 p.m. Thursday.

I was walking through my backyard near a wood fence that separates my domain from that of my neighbor to the east. I felt a sharp, burning tinge on my left elbow. I immediately knew it to be the sting of an insect. As I quickly glanced back, I saw a single paper wasp flying back to its nest after delivering its payload. The attacker was most likely a female paper wasp, as male wasps do not sting.

Paper wasp stings are no fun even for a horticulturist who, on any other occasion, serves as their advocate.

I remained calm—though pained—and quickly surmised that paper wasps would be the subject of this week's garden column. I resisted the urge to inflict a decisive shock-and-awe retaliation response on the wasp nest. I intended for this opportunity to become a teachable moment for my readers.

Before detailing the punishment phase, allow me to expound further on the benefits provided by paper wasps. Paper wasps construct the familiar, open-celled paper nests we often see suspended from eaves or porch ceilings. Paper wasps do serve an important ecological purpose as predators of other insects. They collect caterpillars, beetle larvae and other insect prey to feed their young.

Paper wasps can become a problem, especially during late summer to early autumn when they might disrupt many outdoor activities. Before you do anything to get rid of paper wasps around your home, ask yourself if you can tolerate their presence and leave them alone. I figured that there were at least 9,867 individuals on the nest from which the attacker flew from last week. An unemotional, postmortem count revealed the population on the nest to consist of a mere nine individuals.

Paper wasps help keep hungry caterpillars and other plant pests in check, benefiting your landscape and garden.

Nest size varies, and colonies can range from a half-dozen to several dozen individuals during mid to late summer. A single colony of paper wasps can consume 2,000-plus caterpillars during a summer season to feed their developing young. That's an impressive amount of insect control provided free of charge.

If a paper wasp nest is located on your property but away from high-use areas, consider leaving them alone. While they can sting, they only do so in response to a direct or perceived threat. Humans and paper wasps can often coexist peacefully.

Obviously, when someone in your household has a wasp venom allergy, you might need to remove wasp nests to minimize the risk of an allergic reaction to a sting.

If a nest is located near an entrance to your home or by a porch or deck where you spend a lot of time or in high-traffic areas in your yard, you might need to take action to control paper wasps.

Usually an aerosol spray of one of the many fast-acting wasp killers will quickly kill all workers present on the nest. Apply an aerosol spray during very late evening or very early morning when the wasps are settled in to reduce the chance of being stung.

Motion picture movies featuring animals typically have a tag in the closing credits stating that "No animal was harmed in the making of this film."

Wasps also belong to the Animal Kingdom, and I am compelled to provide full disclosure as follows: A) paper wasps were harmed in the course of preparing this column; B) the Galveston County AgriLife Extension Horticulture Agent also was harmed, which induced the action outlined in item A to occur; and C) retaliation was not exacted from any neighboring paper wasp nests.

I tried to identify the perpetrator of my venomous assault Thursday from the lineup in the photo I took of the nest before a final judgment was implemented.

I think the paper wasp on the lower left side of the nest with the beady eyes was the guilty one.

Paper wasps, like many things, have an upside as well as a downside.



Photo Credit: Dr. William M. Johnson

Paper wasps are beneficial insects although they are generally considered to be pests because of their ability to sting. Wasps can become a problem from midsummer to in autumn when they can disrupt many outdoor activities.

MG Judy Anderson is asking for volunteers to host backyard meetings. You may contact Judy at jande10198@aol.com if you would like to volunteer.

2014 MGA MONTHLY MEETINGS

January 20, 2014

Heidi Sheesley - TreeSearch Farms
Pre-Fruit Tree Sale Presentation
1:30 pm - Extension Office
Carbide Park - La Marque

February 11, 2014

Tish Reustle - Activity at Demo Gardens
6:30 pm - Extension Office
Carbide Park - La Marque

March 11, 2014

Henry Harrison III and Tim Jahnke
Garden Tool Maintenance
6:30 pm - Extension Office
Carbide Park - La Marque

April 8, 2014

Karen & Tom Morris - Backyard Meeting
5:30 pm - 2910 Bayshore
Bacliff

May 13, 2014

Barbara & Gary Hankins - Backyard Meeting
5:30 pm - 12030 Sportsman Road
Galveston Island

June 10, 2014

Graduation at Mikey and Allen Isbell's
7:00 pm - 1715 - 35th Street
Galveston Island

July 8, 2014

Heather McKnight, League City Arborist
7:00 pm Extension Office
Greenhouses
Carbide Park - La Marque

August 12, 2014

Mary Lou Kelso, Moody Gardens
Galveston Island
Venues from 9:15 am, Meal @ 5:45 pm, Hotel Party 7:30 pm

September 30 2014

John Jons - Fall Plant Sale Updates
6:00 pm - Extension Office
Carbide Park - La Marque

October 14, 2014

Mike & Dr. Leslye Mize - Backyard Meeting
5:30 pm - 1504 7th Street
League City

November 12, 2014 (Note Change in Date)

Ira Gervais - Annual Meeting, Election of Officers
6:00 pm - Extension Office
Carbide Park - La Marque

December 9, 2014

Holiday Meeting - Mikey and Allen Isbell
6:30 pm - 1715 - 35th Street
Galveston Island



By Judy Anderson
MG 2012

GALVESTON COUNTY MASTER GARDENER ASSOCIATION

Upcoming Master Gardener Programs

November

The Annual Meeting and Election of Officers will be held **Wednesday, 6:00 p.m., November 12**, at the AgriLife Extension Office (The Extension Office will be closed on Tuesday). Updates about the recent sale, upcoming spring sale, and future activities of the Galveston County Master Gardeners will be presented. Each MG is encouraged to attend to better understand the business of the association.

Prior to the Annual Meeting, Master Gardeners are invited to participate in a pot luck dinner. As the early settlers of our great nation did, November is a time to celebrate the bounty of our harvest. Bring a special dish to share; serving ware will be provided. Tea and water will be available. Join us for the November meeting and a bountiful harvest dinner.

December

The Galveston County Master Gardener's Annual Holiday Party will be held at the home of Mikey and Allen Isbell, Tuesday, 6:30 p.m., December 9. Save this date for an early holiday celebration!

Check your e-mail for further details

We Want Your Feedback

We would love to hear from you. Send us your comments or suggestions for future articles, or just let us know how you are using our newsletter. To make sending feedback easy, just click on the button with your response

FEEDBACK



Gulf Coast Gardening published by the GALVESTON COUNTY AGRILIFE EXTENSION OFFICE

4102-B Main Street (FM 519) La Marque, Texas 77568 (281) 534-3413

<http://aggie-horticulture.tamu.edu/galveston>