



Los Caminos

The Texas Master Naturalist program activities are coordinated by AgriLife Extension and Texas Parks and Wildlife. Texas Master Naturalist and Extension programs serve all people regardless of socioeconomic level, race, color, sex, religion, disability or national origin.

Celebrating and sharing our experiences along "the roads" we take through nature.

Award Winning Newsletter of the El Camino Real Chapter
Milam County **Texas Master Naturalist** Summer 2012

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Prairie Tracks by Katherine Bedrich

First Annual National Moth Week - July 23-29, 2012

Moths belong to the class Insecta and the order Lepidoptera; which includes butterflies. One feature to differentiate moths from butterflies is the antenna - moth antenna are hair like to feathery. Egg - caterpillar - pupa - adult = complete metamorphosis for moths.



Black Witch Moth *Ascalapha odorata*

Most moths fly at night and feed on nectar and pollen; the caterpillar stage feed on plant leaves.

Three body segments identify the class Insecta. Some characteristics of the head are a pair of antenna, compound eyes, and mouth parts; the thorax has three pairs of legs and two pair of wings; and the abdomen terminates with the reproductive structure.

The wingspan of moths found in Texas can be over 5 inches. Moth diversity includes color, patterns, camouflage, size and shape. Many moths are valuable food source for birds, bats and other animals.

Moths are an important part of the **pollination cycle**. "The yucca moth, which is the sole pollinator of yucca, is a unique exception and provides a good example of symbiotic relationships between plants and animals. The

female stabs the ovary of the yucca flower with her ovipositor and inserts an egg. She mounts a stamen, scrapes together a wad of pollen, carries it back to the pistil containing her egg, and thrusts it into the funnel-shaped stigma. She takes neither nectar nor pollen for herself but performs the only act that will guarantee the proper food for her offspring. The yucca plant in its turn may lose a few seeds to the young worms—surely a small price to pay for such perfect **pollination service**"¹

More than 10,000 species are found in North America from inner cities, backyards, rural areas and other nature places. The



Luna Moth - *Actias luna*

First Annual National Moth Week will be July 23-29, 2012. Check the website for information www.nationalmothweek.org. Participants become Citizen Scientist helping to identify moth distribution and provide needed information on the life history of local moths. This project will be a nocturnal event; leave a light on and check around the light after dark. I am ready to be a Moth Citizen Scientist, are you?

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Our Motto

- Look
- Learn
- Teach
- Conserve

Our Mascot
Green Tree Frog



Did You Know?

What weighs 1ton, can run 40mph and jump 6ft?

See the last page for the answer.

¹ Bohart, George E.; Insects, The Year-book of Agriculture, 1952. P.108

Other source: Drees, Bastian M.; Jackman, John A.; A Field Guide To Common Texas Insects

Photos by Katherine and Charlie Bedrich

And now a little poem...Editor.

"the lesson of the moth" by archy (*Don Marquis*)

i was talking to a moth
the other evening
he was trying to break into
an electric light bulb
and fry himself on the wires

why do you fellows
pull this stunt i asked him
because it is the conventional
thing for moths or why
if that had been an uncovered
candle instead of an electric

light bulb you would
now be a small unsightly cinder
have you no sense

plenty of it he answered
but at times we get tired
of using it
we get bored with the routine
and crave beauty
and excitement
fire is beautiful
and we know that if we get
too close it will kill us
but what does that matter
it is better to be happy
for a moment
and be burned up with beauty
than to live a long time
and be bored all the while
so we wad all our life up
into one little roll
and then we shoot the roll
that is what life is for
it is better to be a part of beauty
for one instant and then to cease to
exist than to exist forever
and never be a part of beauty

our attitude toward life
is to come easy go easy
we are like human beings
used to be before they became
too civilized to enjoy themselves

and before i could argue him
out of his philosophy
he went and immolated himself
on a patent cigar lighter
i do not agree with him
myself i would rather have
half the happiness and twice
the longevity

but at the same time i wish
there was something i wanted
as badly as he wanted to fry himself

archy

Explanatory note:

The character of Archy, created by Don Marquis in 1916, was a cockroach who had been a poet in a previous incarnation. To write he must leap headfirst onto the keys of a typewriter, and thus is unable to capitalize his letters.

Use Tools in Extraordinary Ways, by Katherine Bedrich

These are just a few interesting examples of intelligence and creativity of wildlife—excerpted from the National Wildlife Federation web site: nwf.org. Photos are internet public domain.

Crows offer one such example. They have made a clever adaptation to modern society through the use of automobiles. While **they surely don't drive, they have figured out that the crushing weight of a car or truck can crack walnuts and other delicacies.** Crows will place their prospective treats on the road and wait for a passing vehicle. They know exactly where the wheels are most likely to fall on the roadway!

Crows, considered by many to be among the brightest of creatures, have also been seen dropping stones into a water pitcher with a narrow neck in order to raise the water level



sufficiently to take a drink, or in the case of the photo, to get a worm.

Dolphins, often considered to be one of the most intelligent of all mammals have been seen pulling off pieces of sponge, wrapping it around their beaks and then using to forage along a sandy sea bottom for food. The sponge protects their beaks from irritations and abrasions.

Perhaps the most elaborate "tool" user is the bowerbird of Australia. It collects shiny objects such as bottle caps and pieces of glass to make an elaborate (and wholly attractive) nest that will lure a mate. Many days will go into the preparation of the nest and only the finest shiny items will be selected.



Snake Bite First Aid

By Don Travis

[This is reprint of the article I wrote for our inaugural newsletter in Fall 2008. I thought it was timely to print it again. Don Travis]

Of the 300,000 species of snakes, only around 1% or 3,000 are venomous. In the U.S., between 8 and 15 people die of snake bite every year. There are 15 venomous snake species native to the state of Texas. These include 1 coral snake, and three different varieties of the pit viper species that include: 1 cottonmouth (or water moccasin); 3 different copperheads; and 10 different rattlesnakes.

Obviously, preventing snake bites is better than treating them - by being careful where you step or reach, and by wearing proper clothing and hiking boots when taking excursions in the woods. But what if you do get bit?

Identification is key.

If you are bitten by a snake, try to memorize the identifying features of the snake - a must if you need antivenin. Is the head triangular or round? Is the pupil of eye vertical or round? What about coloring and markings? Only Australia has approved venom detection kits to determine which venom is



present from a blood or urine sample. Call 911 and/or the Poison Control Center at 1-800-222-1222 to get help in identifying the snake. Take a picture with your cell phone or digital camera if you can.

Pit vipers have triangular heads, and cat-eyes, as the copperhead close up photo below shows, the black pupil is shaped like the cross section of a vertically positioned convex lens.

The pit, or hole, between the snake's eyes and its nostrils (thus the name pit viper) is heat-sensitive, enabling the snake to locate warm-blooded prey in total dark-



ness. This is also clearly visible in the above picture, between the bottom of the eye and the bottom of the nostril.

A coral snake can be up to 3 ft long and has red, yellow, and black bands along the length of the body, with red and yellow touching (remember, red and yellow = kill a fellow, red and black = friend of Jack). They have round pupils and a black nose. While they have fangs, they tend to chew on their victims for a few seconds, and may leave tooth marks with or without fang marks.

Do not handle the snake. Even a dead snake can be dangerous since any venom remaining on the fangs could be injected if the skin is scratched. A snake may only inject part of its venom with each bite, so it is still dangerous after the first strike. A dead snake can have a bite reflex after death, even with its head severed.



Get help on the way immediately.

Obviously call 911 as soon as possible. Hopefully, your woodland adventure was with a partner, and you can send them for help. Sit down and stay calm with the bitten area (usually an extremity) in a normal body position below the heart. If you have to move by yourself to seek first aid, do so slowly and calmly to the nearest place for help. A childhood friend of mine lost his entire calf muscle because he peddled his bike all the way home rather than go to the nearest house. What would your child or grandchild do? Talk to them!

What are First Aid "Do's" and "Do Not's"?

Now that help has been summoned, what can you do until you get professional medical attention? Many previous first aid remedies are now considered ineffective or outright dangerous, so be careful doing "what you heard".

- Do stay calm, and breathe!
- Do move from the vicinity of the snake, to help prevent multiple bites.
- Do remove any rings, watches, bracelets or other restricting items.
- Do immobilize the extremity, generally below heart level

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- Do carefully and lightly wash the site with mild soap and water, if available.
- Do Not run or do anything physically strenuous.
- Do Not have anything to eat or drink, especially alcohol.
- Do Not take any medications or prescription drugs until a Doctor says you can.
- Do Not take aspirin, napracin, or ibuprofen unless told to by medical personnel as they could increase internal or external bleeding.
- Do Not apply tourniquets or otherwise restrict blood flow. Using a tourniquet can damage nerves and blood flow.
- Do Not apply ice or immerse in ice water under any circumstances as this markedly increases the risk of sloughing and necrosis, and may be more dangerous than the bite itself.
- Do Not use a razor or make any incisions over the bite marks. Use of a suction cup over the fang marks can be beneficial, if you have one immediately available and can **do it in the first 15 seconds, otherwise don't waste your time trying to find one.** And do not attempt to suction using your mouth - for obvious reasons.
- Do Not use a stun gun or apply electric shock.

Will I need an antivenin shot?

Antivenin is a medicine that is given to stop snake venom from binding to tissues and causing serious blood, tissue, or nervous system problems. Side effects from the antivenin itself can include rash, itching, wheezing, rapid heart rate, fever, and body aches. Primarily for cost reasons, American Medical Response (AMR) does not carry antivenin on their trucks, and neither Rockdale nor Cameron hospitals stock it either. Only St. Josephs in Bryan or Scott & White in Temple have it on hand. The cost of one treatment is several thousands of dollars, and must be given within the first 4 hours to be effective. It can remain effective for up to 2 weeks. Even though the antivenins are purified by multiple processes, it may contain other serum proteins and some individuals may have an extreme hypersensitive reaction to the injection, so it is only administered if necessary by medical professionals after careful patient examination.

First aid and symptomatic treatment is the standard protocol **unless it's a small child or a very large envenomation where the body's natural immune system would not be able to sustain life.** Most snake bites do not inject sufficient venom to cause such life threatening conditions, and bites on hands

or feet where there is little muscle tissue to absorb the venom are seldom life threatening. At least 25%, perhaps up to 50%, of bites are dry.

When poison is injected, about 35% of bites are mild envenomation, 25% are moderate, and only 10% to 15% are severe. The primary health concerns are immediate treatment for possible infections and for symptoms of systemic poisoning; such as shock, nausea, difficulty breathing, and severe pain or swelling, and necrosis of tissue surrounding the injection site.



Where does snake antivenin come from?

After the snake venom is milked, it is injected in small amounts into mammals such as horses, sheep, pigs, or rabbits. These animals have an immune response whereby antibodies against the venom are generated naturally. The antivenin is then harvested from the blood of the animal, purified and stored in freeze-dried ampules or liquid cold storage containers. It is injected into muscular areas for absorption.

In Conclusion.

Explore and enjoy nature where ever you are. Be careful where you step or reach. And follow the above first aid protocols if you do happen to get bit.

The information for this article came from numerous publicly available sources, and includes the following highly recommended web sites: <http://texas-venomous.com/index.html>, <http://www.zo.utexas.edu/research/txherps/>, and <http://health.yahoo.com> (search on "snake bite").

Don Travis



My 2012 Summer 'aha' Observation

by Dorothy Mayer

So, I've known for some time that people fear things they do not understand. And, this is one of my biggest motivations to learn more, especially when it comes to snakes.



Anyway, I've been reading a lot of information about snakes, but I still was a bit skeptical of the validity of what I'd been reading. However, it really stands to reason that snakes try hard to avoid people because even living in the country, I just don't really see that many—unless I am really looking very hard. And, I do look hard because I know that besides their venom, their camouflage is their only other real defense. Knowing this and what I have learned about their habitats, I do see more than I used to ever notice. That being said, I've realized that they do prefer to avoid confrontation if at all possible.

Just this past month, my hound dog has shown me a couple of them. But, since he was bitten as a pup, he jumps back and gives them a bit of space and within a few seconds those snakes are gone. I guess you might say Beaudreaux, the hound, and I have something in common—a mutual respect for snakes.

Now, I am not saying that you shouldn't be careful around snakes. But, I do now realize that those snakes do want to avoid confrontation if they have their choice in the matter. Just last week, I watched the dog step right over one and then jump back to smell of that snake. That copperhead was next to the water hose and had old Beaux not pointed it out to me, I would never have known it was there because at dusk a pink water hose is about the same color as a copperhead. But, after that dog smelled that snake and went back for a

second sniff to make sure, he left that snake alone. And, I got a really good look at the snake and it was making no move to even begin to look aggressive. And, when my husband came to look, not 30 seconds later, there was no snake anywhere in sight. So, I have decided those snakes aren't that anxious to let go of their venom.

So, I figure I like my toads hanging around. Therefore, in a way, I am inviting them to dinner. Anyway, I was a bit too close for comfort to that copperhead and I can promise one thing and that is, "you won't catch me going outside without shoes or a flashlight to turn a water hose off." No sirrie you won't. And, I would bet money on that.

[For information on avoiding snake bites, visit <http://artofmanliness.com/2008/07/14/complete-guide-to-snakes/>]



Mine's Bigger Than Yours!

By Dorothy Mayer

Located on Charles Mayer's property, in the Little River bottom area, is a pecan tree that is about 50' shy of being as big as the one time largest pecan tree in Milam County. Shown in this picture is my husband Steve on the right, and son Josh.



west of FM 486, on the Leonard Dearing property. It had a reported circumference of 235 inches, height of 102 feet, and a canopy spread of 110 feet. Unfortunately, it was badly damaged in a storm a few years ago, and is no longer the monster it once was. But this is what it once looked like.

Now who's got the biggest one in the county?



Who's Watching Who? by Donna Lewis

During one of my daily nature patrols last week, I came upon a VERY large insect - A Walking Stick.

The insect was clinging to the sunny side of my house siding while it was watching and waiting to snag a passing bug or **two. I'm unclear if the eight inch long, brown Walking Stick, I am watching, is actually a "guy" or a "gal."**

Being the curious "naturalist" that I am, I rush into the house and grab my camera, while hoping the insect will remain in the same spot. I know I may need the photo for reference when I do my research later.

Excited to see the insect still in the same spot, I steady my camera and slowly move toward the insect, while I am looking through the camera lens to try and figure out the head from the tail.

Even though I do not sweat, nervous perspiration drips onto my camera as I try a snap the **perfect photo of the posing Walking Stick. I don't know who is more startled when he spins his body around with incredible speed and stares into my camera's eye.**

I am ashamed to say it, but the unpredicted movement of the insect startled me and made me jump backward; I let go of my most expensive camera and watched as it dropped to the ground.

After checking for damage to my camera, I look around to see if anyone is watching me as I freak out over such a skinny, yet long insect. Once I realize how foolish I reacted, I begin to laugh. My other picture is a handsome Longhorn Beetle.



A thought pops into my head...Who's Watching Who?

Who is watching who first, when you try to move close to a butterfly and it takes flight.

Who is watching who first, when you see a small lizard and it is darting away from you or freezing in its spot.

Who is watching who first, when a hummingbird leaves its nectar to flee from your view within seconds.

Who is really watching who first?

- Donna Lewis

From the Editor: **Here's some more information about** these curious stick creatures, courtesy of the National Geographic web site. Photo by Robert Sisson.

As its name suggests, the stick insect resembles the twigs among which it lives, providing it with one of the most efficient natural camouflages on Earth—as the picture below shows quite nicely.

It and the equally inconspicuous leaf insect comprise the Phasmida order, of which there are approximately 3,000 species.

Stick insect species, often called walking sticks, range in size from the tiny, half-inch-long *Timema cristinae* of North America, to the formidable 13-inch-long *Phobaeticus kirbyi* of Borneo. This giant measures over 21 inches with its legs outstretched, making it one of the world's longest insects. Females are normally larger than males.

Phasmids generally mimic their surroundings in color, normally green or brown, although some species are brilliantly colored and others conspicuously striped. Many stick insects have wings, some spectacularly beautiful, while others resemble little more than a stump. A number of species have spines and tubercles on their bodies.

Many stick insects feign death to thwart predators, and **some will shed the occasional limb to escape an enemy's grasp.** Others swipe at predators with their spine-covered legs, while one North American species, *Anisomorpha buprestoides*, emits a putrid-smelling fluid.

Little field data is collected about stick insects, making it difficult to declare the vulnerability of their status in the wild. The pet trade presents a potential threat, along with the popular practice of framing their carcasses, like butterflies.

- Don Travis



Reflections—While Riding a Bicycle

By Genie Lindburg

"Sit by my side if you love me.

Do not hasten to bid me adieu.

Just remember the Red River Valley

And the cowboy who loved you so true."

This cowboy lyric is an example of the strange voices that would pop into my head last week while I was riding my bicycle near Clarksville, Texas. Clarksville is a small town in East Texas situated between Paris and Texarkana and close to the Red River. At the time my brain was singing this song I was crossing the Texas/Oklahoma border which happens to be the Red River itself. At this point the river has sandy shores lined with scrub woodlands. It is slow moving and rather nondescript except for the abundance of birds flying around the bridge. Swallows! Barn swallows darting gracefully over the river searching for dinner and swooping low over the water to catch a quick drink or possibly a bath. At this point I had an **"AH HA" experience. I remembered the Master Naturalist** ornithology training class and the walk we took with Tim Siegmund outside the Methodist Church in Milano. This day I was standing on this bridge so I could not see the cup shaped mud nests that Tim had pointed out to us under the bridge in Milano but fantasized how many must be built there since I was observing hundreds of birds.

Now, I realized I was having a unique opportunity. I was getting the chance to review the Master Naturalist training **classes I have attended up close and personal....from the seat** of my bicycle. Training tid-bits galore kept popping into my head from this point on. For example, I never knew until I took this course that cows have no upper teeth. A thought that definitely crossed my mind as I fed a large bovine watermelon rind. Later in the day as I meandered through a forested area I saw prime examples of Pine and Oak trees dying because humans had damaged their root systems by building houses too close to the trees and I was lucky enough to observe the forest service conducting some prescribed burning which I now understand and appreciate.



Soon this forest gave way to open land and I was now cruising through Black Land Prairie. This land is being used to raise cattle and hay. Hay fields were short stubble since they had recently been mowed except for those which seemed to be returning to nature. There were many varieties of wild flowers and native grasses growing where once there was Bermuda. Jon Gersbach had told us how nature could reclaim the prairies and I wondered how many years it would take before

the restoration would be complete and if this was what I was seeing. Ponds dotted the landscape. Some looked blue and beautiful and others dark and dank. All were sanctuary for **Egrets, Herons etc. I realize I don't know much about ponds.** Why do some look so healthy and others are filled with plant life? At least I recognized some of the plants because of our wetlands class.

One early morning I was making my way along a deserted farm road and noticed that the only noise I was hearing besides the click, click, click of my bicycle was the sound of birds. I could pick out Cardinal, Mockingbird, Dove, Hawk and Crow songs but others were a mystery as I could not locate **them in the trees to visually identify them. Tim's voice was in** my head telling us the names of the birds he heard and I **realize more practice is needed. Butterflies and Moth's and insects** galore flitting between the Sunflowers and other varieties of wild flowers that were still blooming. Here the entertaining stories of Bob Baldrige were remembered. Definitely a lot of food to eat was flying by my head. Personally I like peanut butter and M&M Sandwiches better than butterflies and beetles. A buzzard lazily soared above my head. He appeared so peaceful and free. I felt as free and easy as he looked and I realized how much I adore nature and how much I was enjoying this Master Naturalist review.

Small streams lined by woodlands reminded me of our **"wetlands" class. My new word riparian came to mind as did** the thought of the creatures that lived in that environment. I **had seen several "road kill" snakes along the way; a coral or king snake (I didn't get close enough to discern the difference),** a Texas Rat Snake and a large Copperhead. Soon I was blessed to have a Coyote lope across the road in front of me and later a group of three deer raced along the road beside me until they decided I was traveling too slow. They gracefully leaped the barbed wire fence and disappeared into the woods.

After three days and 150 miles, my ride ended and I returned to home in the Piney Woods. What a wonderful opportunity I had to review my Master Naturalist learnings from the seat of my bike. My enthusiasm and giddiness for riding and for nature may have mellowed a bit, but just a little bit. You will notice this if you ask me what all I saw on my bicycle ride in the Red River Valley.



Is It Really Worth It... By Sue Taylor

It's almost three o'clock, I'm sitting at the exit gate at the Milam County El Camino Real Master Naturalist third Nature Festival. A young couple with a two year old and a five year old are walking toward my exit to leave. I'm thinking, "Yes, one more bunch leaving. Soon we can clean all this stuff up and go home, sit in our chairs and drink a tall glass of ice tea." I know all forty or more volunteers out here are tired, feet hurt, head hurts, and just plain totally exhausted.

And knowing two weeks from now we start all over with new Chairs and more ideas, fundraising, and preparation for next years Nature Festival. Yes, we basically work on this thing for approximately fifty weeks. Every man, woman, and child here have been working toward this day for so long to make the six hour presentations today mean something to the young and old alike in our county.

Is it really worth it?

I think of that as I remember all the boy scouts and girl scouts as they get excited at prospects of learning new stuff to earn badges. I think of the laughter of the kids as they travel



through a maze in the life of a toad; the delight in touching a snake or alligator or watching honey bees or crawfish; making bird feeders; looking for artifacts; watch arrowheads being made; learning the life cycle of bats or the struggle of horny lizards, how to plant seeds, receive a free tree, enter a photo contest, or just get something wild and crazy painted on their faces.

Well yes, I think it's worth it, why else are we all out here



killing ourselves. Some of us are not as young as we used to be. But today I really got rewarded. I like to think I was on the receiving end for everyone out here.

The young mother and dad walking out the gate are also tired. You can see it in their eyes. They have hold of their two year old boy, but the little girl is running ahead of them. Running straight at me. I'm sitting in a chair, end of long day, just guarding the exit gate. She is still running at me, meets me face to face, wraps her arms around my neck, starts hugging and kissing my cheek. I

know I look like a **grandma, Im 'Nonna'** to several of my own, but has she got me mistaken for someone else? No, she starts **telling me: "Thank you, Thank you, I had the best time today. This was so much fun."**



That's when I realized just how well I had been paid for all our hard work. It just made it worth all the long hours so many of us have put in this project. I wish everyone could have experienced those hugs and kisses. They were the best. I told her she was welcome and we would see her next year. She would be back she said. She was wonderful and so happy for her day at the Nature Festival.



As her mother took her arms from around my neck and also thanked me **for a great day, I couldn't** help but laugh a little as **they walked away, and I heard her tell the little girl. "See there, you had a good time, and I literally had to drag your rear out of bed this morning to get you to come."**

But I bet there won't be any dragging next year.

And I consider myself paid in full.



A Blob of Bird Poop

By Ann Collins

What in the world has a head that looks like a snake but isn't? **It even has a bright red, orange forked "tongue",** (ostmeterium), that can emit an odor that smells like rancid butter and is strong enough to kill ants and small spiders. Is that a bad case of morning mouth or what? This creature is possibly one of the best disguised members of the animal kingdom. When it is young it can be completely out in the open and not be disturbed by predators. As it grows it holds tightly to stems and small limbs where it is partially concealed. In the first three stages of its life it looks like a blob of bird poop! Yes! Gray, brown, white, and even a bit of purple all mixed together with some areas smooth and shiny while other areas are dull.

Have you ever seen a creature that fits this description? I had heard about them but until recently I had never seen one. I had noticed some of the new leaves on one of my lemon trees were being eaten but I could find nothing that was doing the damage. Typically, when I was paying no attention whatsoever, my eyes were drawn to this bizarre critter clinging tightly to a small stem. I ran for my camera thinking it might be speedy and crawl away. Probably shouldn't have but, after a lengthy photo shoot, I carefully pried the feet from the stem and carried it into the house. Yikes! How brave to carry this thing from outer space into the sanctity of my home.

Have you guessed yet? This is a real Cinderella story. This grotesque blob after its fifth instar emerges as one of the most magnificent butterflies that we have: a Giant Swallowtail. Courtship takes place in the afternoon. Hummmm! Reminds me of an old Audrey Hepburn movie. The adult butterfly lays one or two eggs at a time on the top side of new growth leaves of citrus, Hop Tree (Wafer Ash), and Hercules Club. The eggs are large, round, and creamy orange in color. How cute! A tiny orange growing on the leaf of an orange, lemon, lime or other citrus tree. They emerge from the egg covered with setae (hairs) at the end of tiny knobs. The "hairs" disappear and knobs are less prominent as they mature.

In the older instars they actually do resemble snakes, albeit they are only about two and a half inches long. The "head" is actually the greatly swollen thorax with the eating machine tucked away below. Generally, the feasting takes part at night which further protects them from predators.

The chrysalis or pupa is brown with mottled greens and grays so that it resembles a broken lichen covered limb. The top half is held to the stem by silken threads while the bottom is anchored by a tiny silken button. They may over winter in this stage if they hatch later in the season.

When the adult emerges it is truly spectacular. It is one of the largest butterflies in the United States with a forewing of the male being 4.6" to 6.9". The females are a bit larger, ranging from 5.3" to 7.4". Wow! Their large size makes them relatively easy to identify in flight. The upper side of the wings is dark brown to black with very prominent yellow bands. The hind wing has a red and black "eyespot" and there are two tails that have yellow dots on them. The underside is yellow and when the wings are closed you would never guess that it is the same butterfly. These wings have a blue band with a tiny orange spot. Guess that is their carry over from the citrus home they first knew.

These butterflies are not at all endangered and are found in many areas of North America, being most numerous in the South and Southwest. They range as far south as Colombia in South America. Giant Swallowtails favor open woodlands, fields, and especially citrus groves where they can be a real threat to the newly emerging leaves. They fly high but come down to feed on the nectar of flowers, especially Butterfly Bush (*Buddleia davidii*) and Lantana (*Lantana sp.*) Azalea, bougainvillea, Japanese honeysuckle, goldenrod, and Bouncing Bet are good to plant in a butterfly garden. Like most others in this family they like mud puddles and a bit of juicy manure—charming!

There are a number of other swallowtail butterflies worldwide that have similar instar development. Our Great Swallowtail is *Papilio cresphontes*.

So, watch where you step and keep your eyes peeled for these wonderful creatures. That blob of bird poop could end up being a Swallowtail.

[Editor addition: The swallowtail butterfly, *Papilio xuthus*, passes through 5 larval stages ("instars") growing larger after each molt. The first four larval stages resemble bird droppings looking like brown fecal matter with a whitish paste of uric acid (which is the nitrogenous waste of birds). This photograph shows the 3rd (left), 4th (middle), and 5th (right) instars. See how after the fourth molt, the 5th instar has quite a different appearance — being well camouflaged as it feeds on its host plant.]



Dr. Fujiwara

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Certifications, Etc.

By Debbi Harris

New for 2012 are in this color.



Our 2012 Re-Certification pin is the Bat. Those achieving their 2012 Annual Re-Certifications to date include: Katherine Bedrich, Cindy Bolch, Ann Collins, Lucy Coward, Joyce Dalley, Vivian Dixon, Michele Fletcher, Debbi Harris, Donna Lewis, Dorothy Mayer, Cindy McDaniels, Connie Roddy, Phyllis Shuffield, Kim Summers, Sue Taylor, Cindy Travis, Don Travis and Paul Unger.

Lifetime to date Milestone Achievement Levels Awarded include:

250 Hours—Paul Unger, Ann Collins, Katherine Bedrich, Cindy Bolch, Paula Engelhardt, Don Travis, Debbi Harris, Joy Graham, Lucile Estell, Shawn Walton, Anne Barr, Ed Burleson, Connie Roddy, Dorothy Mayer, Lucy Coward, Donna Lewis, Sue Taylor, Phyllis Shuffield, Sandra O'Donnell, Jim O'Donnell, Vivian Dixon, Sandra Dworaczyk, Cindy McDaniels, Sandra Dworaczyk, Janice Johnson, Gary McDaniels, and Rusty Thomas.

500 Hours—Paul Unger, Ann Collins, Katherine Bedrich, Cindy Bolch, Paula Engelhardt, Don Travis, Anne Barr, Donna Lewis, Phyllis Shuffield, Lucy Coward, Debbi Harris, Dorothy Mayer, Sue Taylor and Connie Roddy

1000 Hours—Paul Unger, Ann Collins, Katherine Bedrich, Cindy Bolch, Don Travis, Paula Engelhardt and Donna Lewis.

2500 Hours—Paul Unger and Katherine Bedrich.

[Congratulations to All!](#)

Did You Know? What weighs up to 1 ton, can run 40 mph and jump 6 ft?

The American Buffalo, or bison, is a shaggy behemoth of the Great Plains. Despite weighing as much as a ton, it can race up to 40 mph, jump up to 6 feet vertically and can quickly pivot to combat predators. **Unfortunately this mighty beast is not faster than a speeding bullet. Though the bison's ancestors roamed the continent with saber-toothed tigers and woolly mammoths, he could not protect himself from expansion and was nearly wiped out in the late 1800s as the nation's population moved West.**

Millions of bison were slaughtered for sport, for their hides, to clear the plains for settlers and their livestock and to control the Plains tribes. Native Americans used the bison for food and clothing, shelter, tools and ceremonial implements—nearly everything to survive physically and spiritually—and are still revered as reminding them of how their lives were once lived, free and in harmony with nature.

Before their near extermination, an estimated 30 million to 60 million bison ranged from Canada to northern Mexico and from the Plains to Eastern forests. By about 1890, roughly 1,000 remained, including two dozen in Yellowstone National Park. Most of the 500,000 or so bison nationwide today are raised as livestock on ranches. About 30,000 are managed for conservation in private and public herds. [Courtesy National Wildlife Federation web site, photo by Beth Pratt]

