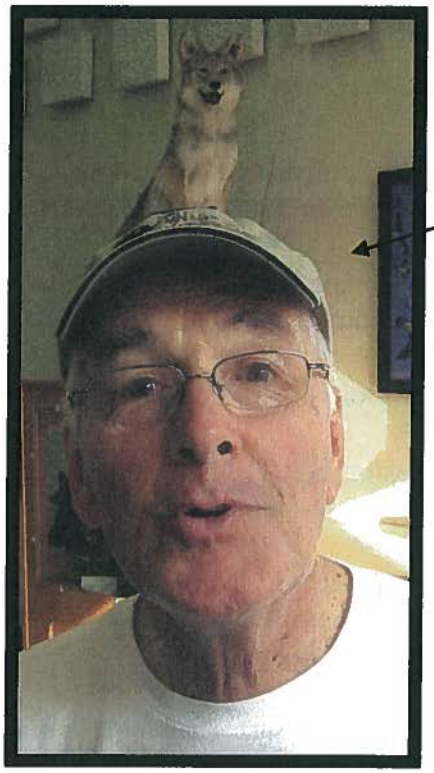
Galveston Bay Area Chapter – Texas Master Naturalists

The Midden

August 2009

"Are You Rested Yet?" – *by Mary Jean Hayden, President 2009*

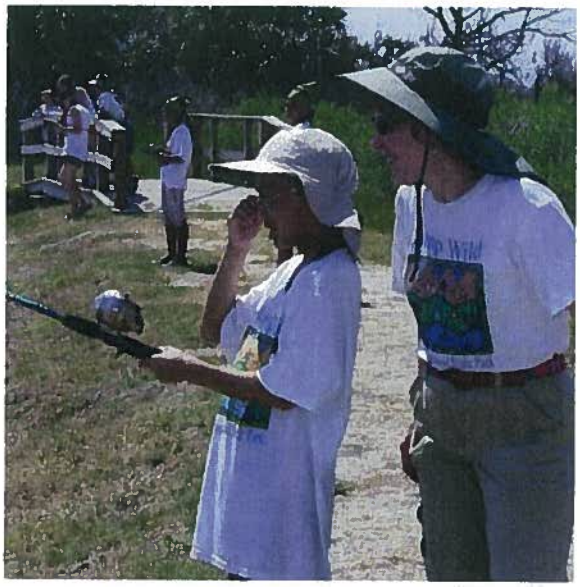


Hope you're all having a wonderful and restful summer and are managing to stay out of the heat! The weather has obviously affected Dick - he's wearing his coyote hat and howling again!

Do let the AT team know of your workshop preferences - isn't it nice of them to have the July AT event at the lovely and air-conditioned Sea Center Texas? You might want to drop in to help with some of the wetland and prairie restoration projects that are going right through the summer - those coordinators make sure nobody is at risk of heat prostration.

We've travelled and had plenty of summer company, so I'm taking a July break. See ya'll at the August board meeting where we'll all learn about the Millennium Seed Bank Project.

Inside This Issue: **Page**



Julie Massey enjoys watching a camper fish at Camp Wild at Galveston Island State Park. Read all about it starting on page12.

August - September

ADVANCED TRAINING OPPORTUNITIES

by Diane Olsen, AT Chairperson dianeo@wt.net

Chapter Meeting – August 6, 2009
Presenter: Michael Eason, Wildflower Center
Botanist will cover the Millennium Seed Bank Project from Kew Gardens, UK.
6:30 Social, 7:00 Presentation, 8:00 business meeting
Carbide Park 1 Hour AT

Tools of the Trade
August 13, 2009
Challenger 7 Park
9 am until 3 pm 5 hours AT
Presenter: Various
For more information, contact Mel Measeles
measeles@swbell.net

Prairie Rescue & Division Workshop
August 20, 2009
Armand Bayou Nature Center
8:30 am until Noon 3.5 hours AT
Presenter: Tom Solomon
For more information, contact Tom Solomon
crandtr@sbcglobal.net

"Paddling For TMN"
Kayaking Workshop
September 17, 2009
Clear Lake Park at Mud Lake
9 am until 3 pm 5 hours AT
Presenter: Vic Madamba, contact Frank Budny
fmbmab@verizon.net

Ongoing
Galveston Island State Park
Every Saturday - Beach Explorations
Every Sunday - Bay Explorations
Meet at the Welcome Center at 10 am
Tours are 1 to 1 ½ hours long.
Prepare for sun and mosquitoes.
Bring water and family.

STEWARDSHIP OPPORTUNITIES

Project of the Year:
Prairie and Dune Restoration/Debris Removal
Galveston Island State Park
August 27, 2009 and September 24, 2009
9 am until Noon
Contact: Shirley Foster MFoster689@aol.com

Ongoing Activities:
Mondays –
- Reitan Point, second and fourth, Contact: Liz Gimmler gimmler@consolidated.net

Tuesdays –
- Sheldon Lakes State Park, Contact: Tom Solomon crandtr@sbcglobal.net
- Texas City Prairie Preserve, Contact: Marybeth Arnold mbarnold@aol.com

Wednesdays –
- Wetland Restoration Team, Contact: Marissa Sipocz m-sipocz@tamu.edu

Fridays-
- Prairie Friday, ABNC, 9 am - Noon
  Contact: Dick Benoit
  RBenoitTEX@aol.com
- Sundance Garden Contact: Trudy Belz
  trudybelz@aol.com suspended for summer

***The Midden* Deadline**
For the October/November Issue
August 31

If you have Advanced Training or Volunteer Opportunities for October or November, please submit information to Diane Humes
treimanhumes@earthlink.net

PRAIRIE *by Dick Benoit*

O N D E R I N G S

Enjoy the beauty of the prairie this summer. Journey into the prairie in the cooler part of the day, the early morning or late afternoon. Or travel in air-conditioned vehicles to see the Coneflowers, Indian Plantains, or Prairie Blazing Stars (Prairie Plant Profile).

The intrepid prairie restoration team has continued their work in the dry, hot Texas summer. Liz Gimmler continues overcoming obstacles to plant Ike-ravaged Reitan Point Prairie. Tom Solomon and Jim Duron spearhead the work at Sheldon State Park Prairie and Armand Bayou Nature Center Prairie. Sprigging continues, but planting has been minimal due to the current drought conditions. But thousands of one gallon plants are being watered as they wait for better planting conditions. The dedication of the prairie restoration crew to their plants is remarkable. Galveston Island State Park Prairie has also been a focus of the restoration team and strides are being made there also.

Keep abreast of the workshops being offered this summer and fall involving restoration efforts.

The first Annual State of the Prairie Conference held at Armand Bayou Nature Center in April of this year formed a steering committee. Tom Solomon and myself were nominated to be the volunteers on the committee. The group is assessing the last conference and has set us the next conference for November 11 and 12, **2010,** in West Columbia near the Nash Prairie. So mark your calendars. It will be held in conjunction with the Brazos Bend State Park Prairie Heritage Weekend.

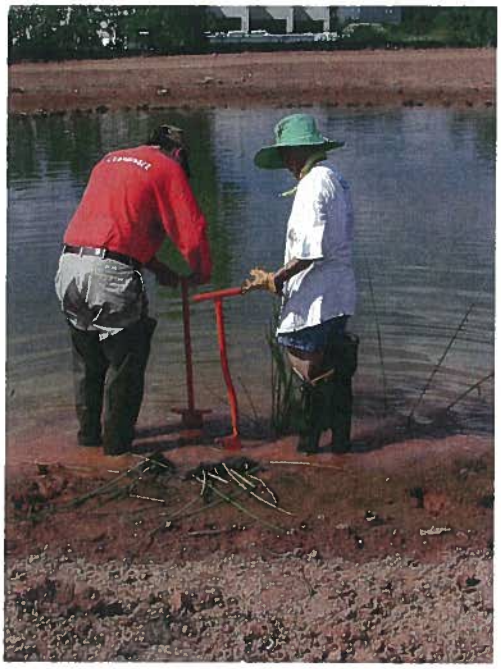
Prairie Plant Profile

Prairie Blazing Star
Liatris pycnostachya
(Lee-A-triss pick-no-STAY-kee-ah)

Identification: Common summer blooming forb in our local prairie remnants. If you see this plant blooming wild in July/August it probably shows its prairie heritage. They generally grow in wet prairies about 1 to 1.5 meters in height. The upper leaves are narrow and standout from the stem like ribs on a fish's spine. Flower heads can have from 5 to 15 flowers with as many as 150 heads per plant. Prairie Blazing Star is found in dense populations, especially following prairie fire. They can live three decades or so. Early Americans used them extensively, especially the corms (a bulb-like root structure) given to horses to increase their endurance. The corms were also used as stimulants, diuretics, and stored for the winter meals. The leaves were made into tea and used for snakebites and stomach aches. There are about 25 species of Liatris that grow in North America.

WETLAND *by Diane Humes*

A N D E R I N G S



For three sweltering weeks in June, the Wetland Restoration Team has been busy planting in the ponds at the newly created Buffalo Bend Park in southeast Houston. This is a partnership with the Buffalo Bayou Partnership and we are well on our way to providing the 10,000 plants required for this project. The site is a series of three ponds perched above Buffalo Bayou; water will cascade over rocks on its return to the bayou, cleaner and more oxygenated for its journey through the wetland.

Proving that "if you build it, they will come", just the addition of water and a few plants to the bare dirt ponds, has attracted new residents: dragonflies, toads, and a whole family of black-bellied whistling ducks, to date. The ducks are the most critical of the project – they stand on shore, eyeing our progress, apparently daring us to do a good job!

Buffalo Bend Park is located at Wayside Dr. and Buffalo Bayou, immediately downstream from a wastewater treatment plant and upstream of the Houston Ship Channel. Check out the Google Earth map.

The Wetland Team continues to plan for the wetland construction Phase II at Sheldon Lake State Park. To that end, we have spent days in air-conditioned comfort cleaning seeds – a nice change from sticky, gooey mud and soaring outside temperatures. We will soon need to collect more seeds and will continue planting at Buffalo Bend in the near future.

For more information about the Wetland Restoration Team, contact:
Marissa Sipocz, m-sipocz@tamu.edu, 281-218-6253.

Bay Day 2009

by Vic Madamba

Bay Day 2009 sponsored by the Galveston Bay Foundation (GBF) was and continues to be a success, drawing an estimated 5,000 + visitors to the festival. The festival, held at Kemah Boardwalk, May 16, 2009, was in full swing by 11 a.m. with many of the 45 Bay-related exhibits providing information on preserving, protecting and enhancement of Galveston Bay.

Many of our TMN-GBAC members were involved as volunteers, presenters and manning exhibits with the goal of educating the public on how important Galveston Bay is to those its shores touches. There were so many outstanding booths that it would be unfair to single out one. I would like to highlight a few.

The Friends of Galveston Island State Park booth was manned by Shirley Foster. She answered questions such as: "When is Galveston State Park opening? Is camping permitted? Can we fish yet? How about paddling?" Just a few examples of questions she gracefully answered with a smile.

It was a perfect sunny day for visitors as one could hear the rattle of the roller coaster in the distance and smell the aroma of hot dogs roasting, while a nationally recognized band belted out their tunes on stage.

Several hundred yards away at the entrance to Kemah Boardwalk was the TMN-GBAC booth manned by our own Mary Jean Hayden and the one and only Julie Massey. These two ladybirds entertained young and old, measuring and matching individual's arm span with birds of similar wingspans answering the question, "Are you an eagle or turkey?"

All in all, it was a fun day for everyone. If you would like to be involved at Bay Day 2010, scheduled for May 15, 2010 at Kemah Boardwalk, call 281-332-3381 ext. 207.

Lightning Bugs

by Diane Humes

July 3, 2009: Eight children watched with delight as fireflies flitted about the McGovern Garden at Armand Bayou Nature Center, viewing them for the first time ever.

Hot summer evenings, chasing lightning bugs when the sun went down – when did you last see a firefly's blinking light? Do you know any children who have caught fireflies in a jar? Spearheaded by the Museum of Science, Boston and scientists at Tufts University, Firefly Watch is asking those very questions. They are asking citizen scientists to help construct a firefly range map for the United States to compare with old data, because of fears that fireflies – lightning bugs – are disappearing.

Fireflies are neither flies nor bugs; they are beetles, in the family **Lampyridae**, mostly nocturnal and characterized by bioluminescence – cold light produced by a reaction with the chemical *luciferin* in their bodies. More than 2000 species of fireflies are found on every continent except Antarctica, preferring meadows, fields, and marshes. Over 170 species occur in North America, with the most firefly-rich region occurring along a 30-mile swath of border between Florida and Georgia. Three common genera belong to the **Photurinae** subfamily: **Photinus**, about one-half inch long producing yellow flashes, **Photuris**, larger, almost an inch long, with green flashes, and **Pyractomena**, with a yellow-orange flicker like a campfire spark.

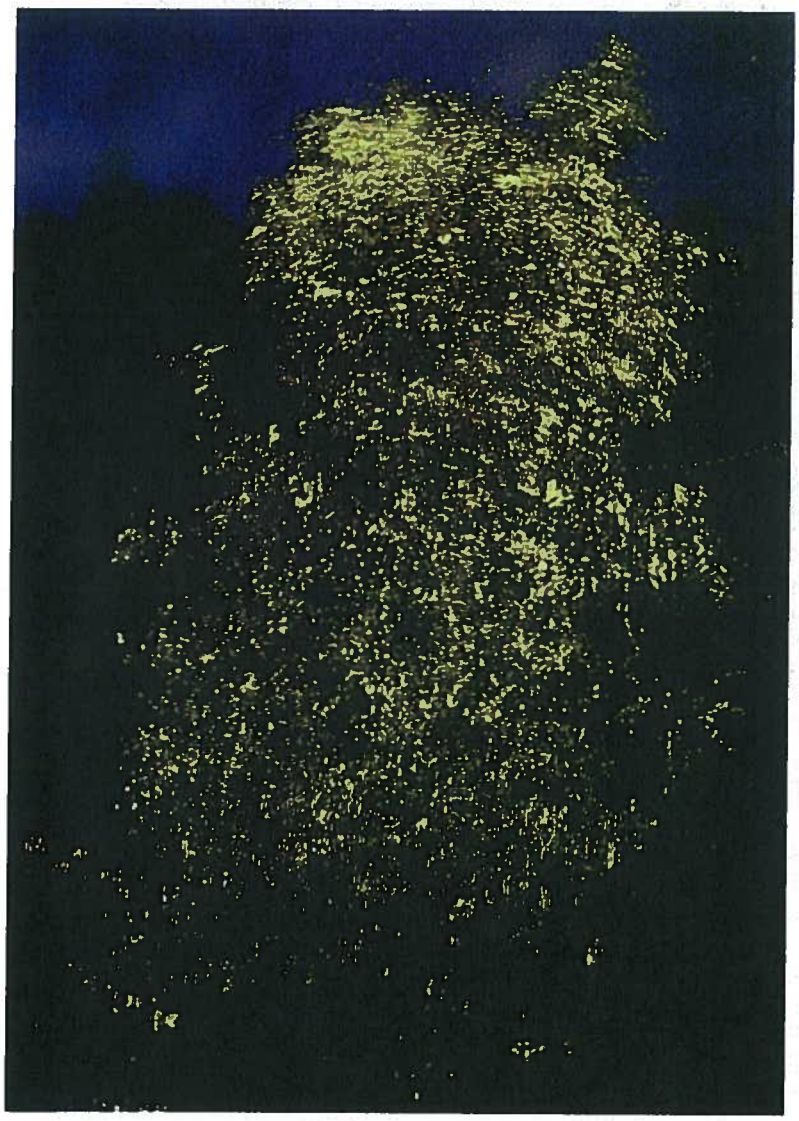
A firefly's luminescence appears even in the embryo stage within the egg. After hatching, the larvae of all fireflies glow from two tiny posterior lanterns. Larvae are predatory and hunt snails, earthworms, other insect larvae, and probably other soft-bodied animals in or on the soil. **Photinus** larvae usually remain underground. **Photuris** larvae are the ones most likely to be seen glowing while hunting on the ground. **Pyractomena** larvae may sometimes be seen lit up walking up and down branches and trunks of trees and shrubs. The length of the larval stage depends on the species and may last from weeks to years, but when it is complete, larvae pupate for anywhere from a week to a month, and undergo adult metamorphosis.

Pyractomena larvae pupate on the bark of trees and shrubs, often in crevices, by hanging upside down like a butterfly chrysalis, cryptically colored. **Photinus** and **Photuris** species pupate underground. **Photuris** larvae dig pits into the soil, making little pellets from soil, building the little "igloo" hut in which they complete metamorphosis. The **Photuris** pupa is an unpigmented, ghostly white, and emits light when touched.

From sundown of the first evening of their short adult lives, fireflies are ready for the business of producing the next generation. Each species has its own pattern of light flashes, time and height of flight, but **Photinus pyralis**, the firefly most often caught by children, exhibits a familiar firefly mating strategy. At dusk, from spring to fall, females climb up on blades of grass. Males fly within 3-4 feet of the grass, emitting a flash of light every 5 to 6 seconds in a swooping U or J in flight, hover for 2 seconds and repeat their flashing. Females wait 2-3 seconds then emit a half-second flash in response. They continue this conversation for

perhaps some minutes before mating. Fireflies mate repeatedly over their 1-2 week adult lifespan; between mating the female lays her eggs at the base of a grass stem.

Females of some species are flightless and some do not feed, but **Photuris** females can fly and are the *femmes fatales* of the firefly world. These large females mimic the flash patterns of **Photinus** females and lure unwary **Photinus** males to their deaths. Instead of mating, the hungry **Photuris** female attacks and eats the **Photinus** male!



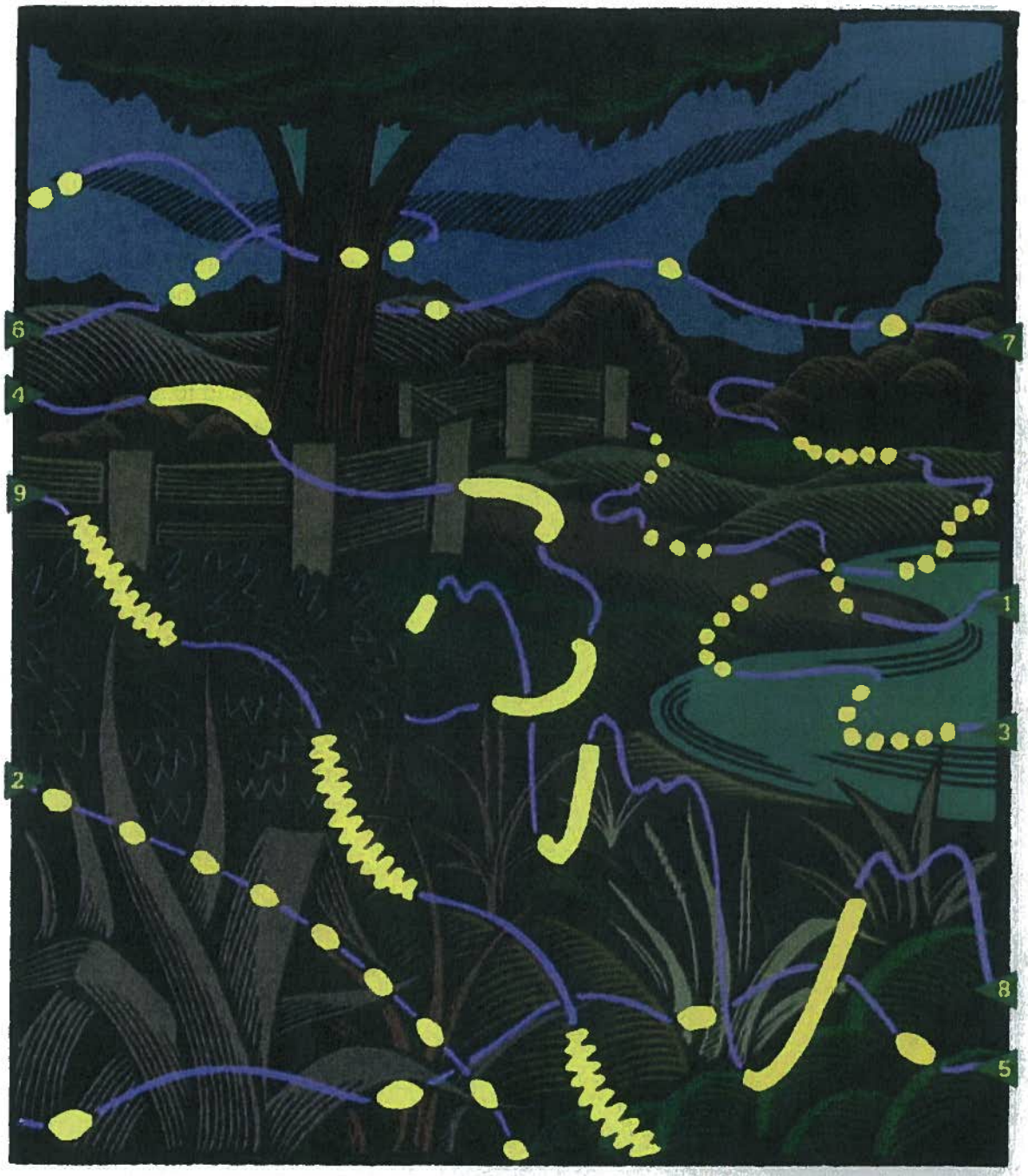
Two groups of North American fireflies do not have flashing lights. Among glowworm firefly species, only the females produce light. They live in underground burrows, come to the ground to attract mates, lay their eggs underground and die. Females and the dark males are seldom seen. Diurnal firefly species have no lights, use pheromones for signaling, and fly in the daytime.

Especially in Asia, firefly species have evolved the fascinating ability to synchronize their flashes. They congregate in trees, usually along rivers, and flash in perfect unison with each other. These "flashing trees" are well-known landmarks, winking and blinking in the night from the lights of thousands or millions of fireflies.

There is a perception and fear that firefly - lightning bug- numbers are in decline. Firefly lifestyles certainly make them susceptible. Particular species are associated with specific habitats such as wetlands, forests, and old fields. Many firefly species are extremely site-specific, flashing and mating in the same locality over many years. **Photinus** adults are weak fliers and larvae are subterranean; it is possible that they do not ever travel more than a few meters from where they were deposited as eggs. So, soil disturbance due to construction, pavement, or conversion to agriculture all have potential to disrupt established breeding populations that may never recover or relocate.

Herbicide and pesticide use in lawns and farm fields and mosquito control may be detrimental to adult and larval stages of firefly life cycle, directly killing larval or adult fireflies and their prey species. Streetlights, yard lights, and city lights may be pollution to little lightning bugs seeking mates. And, lowered water tables and loss of marsh habitat – think subsidence – may have also affected firefly numbers.

Firefly Watch is soliciting citizen help to document firefly numbers and locations. No backyard is too small! If you would like to contribute, log in to: https://www.mos.org/fireflywatch/



The Nature of Fireflies

Each firefly species has a unique pattern of flashes, which helps males and females find each other. However, 99.99 percent of the flashes that humans see come from males. That's because the females generally don't fly much, and after mating, they turn their attention to laying eggs. The males, however, continue their flashdance. Above, the flight paths of nine species in the genus *Photinus*, the largest in North America: (1) *Photinus consimilis* (slow pulse), (2) *P. brimleyi*, (3) *P. consimilis* (fast pulse) and *P. carolinus*, (4) *P. collustrans*, (5) *P. marginellus*, (6) *P. consanguineus*, (7) *P. ignitus*, (8) *P. pyralis*, and (9) *P. granulatus*.

Sources:
Branham, M.A. and M.D. Greenfield. "Flashing males win mate success." Nature 381 (1996): 745-746.

Buck, J. and E. Buck. "Synchronous Fireflies." Scientific American May 1976: 74-85.

Lloyd, J.E. "Mimicry in the Sexual Signals of Fireflies." Scientific American July 1981: 139-145.

Zimmer, Carl. "Blink Twice if You Like Me." The New York Times 30 June 2009.

www.firefly.org
https://www.mos.org/fireflywatch

Prairie Dawn - The Naming of an Endangered Species

by Julie Massey

(The following was written in the vein of Guy Noir, Private Eye, from the radio program, A Prairie Home Companion. The Guy Noir theme was running through the author's head as she was writing! She hopes you can hear it too!)

"A dark night in a city that knows how to keep its secrets, but on the second floor" of the U.S. Fish and Wildlife Service, Julie Massey, ace endangered species biologist, sat at her desk. Suddenly the phone rang! Something was up in the endangered species world!

On the other end of the phone was a friendly voice - Dr. Larry Brown. Dr. Brown introduced himself and asked if Massey had ever heard of *Hymenoxys texana.* She was not familiar with the plant ... so Dr. Brown began to fill her in!

Many people believed that *Hymenoxys texana* was extinct with the last plant found in the early 1900's. Well Dr. Brown thought he had located several populations in Harris County! He wanted to have the populations confirmed and perhaps have the plant listed as an endangered species!

This phone call began the amazing process that brought agencies, schools and botanists together to protect this small plant that is best seen while lying on your belly in the prairie!

Often when species are listed as endangered species, the habitat is endangered. In the case of *Hymenoxys,* the plant is found on the edges of pimple mounds* in prairie habitats. The sites found by Dr. Brown were close to roads and threatened by road expansion projects.

The plants were confirmed to be *Hymenoxys texana*! It was not extinct but threatened by planned road development! So the paper work began to list the plant!

Sounds simple but ... during the public comment period of the process, ranchers from across the state became enraged! Massey received phone calls from ranchers who wondered if the federal government had lost its collective mind! How could they list a species that they had been trying to eradicate - a plant that made their cattle sick?

Well, after much investigation, Massey discovered that a relative of *Hymenoxys texana* was the cause of the ranchers' woes. After soothing the fears of the ranchers, the listing process continued.

In the meantime, it came to light that *Hymenoxys texana* did not have a common name. A common name is not required to list a species but it is helpful in making the species warm and cuddly to the general public. (Massey was not sure how a plant that required you to get on your belly to see could ever be considered cuddly).

A committee of agency representatives (U.S. Fish and Wildlife Service, Mercer Arboretum, Texas Parks and Wildlife Department) decided to host a contest for school children to name the plant! In addition, the kids could learn about endangered species!

Contest posters were distributed to schools advertising the contest. Then came the calls from schools - everyone wanted to chance to "Name that Species!"

Massey visited schools across the Houston area - teaching more than 600 students about endangered species and promoting the contest! The kids were excited and so were their teachers who used the contest for class projects and extra credit.

The contest deadline arrived and posters flooded into Mercer Arboretum - a co-sponsor for the contest. More then 60 posters with drawings, stories and ideas for a common name arrived! Amazing names were submitted such as yellow phoenix - rising out of the prairie, lazy daisy, yellow bonnets and Texas sand flower.

Finally, the judges decided - *Hymenoxys texana* would forever be known by the common name "Prairie Dawn!"

The fifth grade winner of the contest received a season pass for her family to AstroWorld, a savings bond and the distinction of naming a federally listed endangered species!

Later... back at her Fish and Wildlife Service office, Massey sent the last of the reports and paperwork to Washington, D.C. completing the listing process.

As she closed the file on *Hymenoxys texana*, Massey wondered what was in store next in the world of endangered species! Stay tuned for more!

Prairie dawn (*Hymenoxys texana*) was listed as endangered under the Endangered Species Act in 1988. It continues to receive protection under the Act.

Pimple Mounds

*"The pimple mounds in the Gulf Coast region, referred to elsewhere as "mima" or "prairie" mounds, are circular to elliptical hillocks ~20 to ~150 feet (~6 to ~45 m) in diameter, and up to 4 feet (~1.2 m) in height." From Saul Aronow. See link below.

The origin of these mounds is confusing. If you are interested in further study take the following link
http://www.armandbayou.org/watersheds/pdf/Aronow_Harris_geomorph.pdf

If you are interested in doing further study, *The Midden* would be interested in publishing your findings.

Gardening for Insects, or My Backyard as a Bug Farm and Bird Feedlot

by Margaret Canavan

Bringing Nature Home: How Native Plants Sustain Wildlife in Our Gardens by Douglas W. Tallamy. Timber Press, Portland, Oregon, 2009.

I love this book! Anita Tiller, Botanist at Mercer Arboretum and speaker at our June Chapter meeting, spoke as though she assumed we're all familiar with it. Maybe we are, but here are some thoughts about it just in case.

Dr. Tallamy is Professor and Chair of the Department of Entomology and Wildlife Ecology at the University of Delaware. So he speaks with authority his concerns for biodiversity loss and species extinction rates. But he doesn't wring his hands, or talk about what someone else can do. He describes what he is doing and what we—each of us—can to do right at home, right now. He believes we can make a difference by what we grow in our own backyards. Plant insect food!

Many of us are on the "plant-natives" bandwagon. We know that natives (or near-natives) are good for the gardener because they are acclimated to our temperature and rainfall variations, and can coexist more or less peacefully with our local insect population. So they are hardy plants that can flourish with a minimum of extra care, water, and chemicals. What more can a native-focused gardener want? We want insects to eat our plants!

Sure, we appreciate insects for their critical role in the food chain. But I still cringe when I see a small critter dining on a cherished plant. A "butterfly garden" means more than just having beautiful creatures fluttering around and sipping nectar from the blossoms. It means caterpillars consuming the plants themselves. We've seen milkweed go from lush green with colorful blooms, to naked stems, in the blink of an eye. Tallamy helps me feel better about that.

Dr. Tallamy is not a purist about natives, but he does suggest we include as many of them as possible in our landscapes. But he minces no words when speaking of introduced exotic plants. He calls them "alien ornamentals" that produce a sterile environment because our native insects do not recognize them as food. He says that insects and plants in any regional ecosystem have evolved together for millennia, thus our local insects will not know that a plant from China is food, and neither would his or her digestive system. Consequently, "alien ornamentals" in our yards will not be consumed by critters, but critters will lose their habitat. While this means we won't be reaching for the bug spray, it also means our insect friends are losing their food supply.

Dr. Tallamy reminds us that insects turn solar energy into the high protein food needed by birds and their offspring. And onward up the food chain. So plant a few alien ornamentals if you must, but include natives for our wild friends. By the way, the Houston Chapter of the Native Plant Society of Texas has a great website: http://www.npsot.org/Houston/ with lots of information and suggestions for good local plants. Their annual Wildscapes Workshop, always excellent, is scheduled for September 26 at the University of Houston Main Campus.)

There is much more to this book: great photographs, plant suggestions, an insect gallery, and a Q&A section, all well written, readable, and full of important information. I typically buy garden books and stick them on the shelf, but this one is different. I actually read the whole thing! I hope you will too.

Wild and Wonderful Camp Wild

by Mary Jean Hayden
Photos by Katie Benoit-Hake

Consensus is that this year's camp was the best yet! Of course we've said that every year for the past eight years. In 2001 four volunteers conducted the camp for 20 kids; this year we had 64 campers and averaged 34 volunteers each day. The Chapter, which supplies most of the manpower, and Friends of Galveston Island State Park that handles funding, sponsor the one-week summer day camp at Galveston Island State Park jointly. And for the first time our Chapter Education Committee served as the planning group.

There is no way to adequately thank all of our outstanding volunteers - I could write a paragraph about each of them - so when you run into any of the following, please thank them for their great work.

Counselors: Nancy Cooley, Carrie Ferguson, Victoria Fogg, Ellen Gerloff, Katie Benoit-Hake, Pauline Hayden, Andrea Hecz-Oberman, Kecia Held, Alan Jackson, Sandra Linton, Brenda Voller, Beverly Williams
Jr. Counselors: Kayla Ferguson, Alex, Nicole & Megan Hayden, Stanzie Sesher, Kristen Williams
Instructors: Art - Linda Ercole-Musso & Rita Smith; Bay Exploration - Steve Alexander & Nathan Veatch; Beach Exploration - Bob Robinson & Mel Measeles; Birding/Prairie - Carolyn Miles; Fish/Squid Dissection - Julie Massey & Nathan Veatch; Fishing & Crabbing - Gib Larson, Julie Massey; Insects - Carey Battle; Kayaking - Frank Budny, Mel Measeles & Vic Madamba; Owl Pellets - Dick Benoit; Ropes Challenge - David Hayden; Wildlife - Margaret Pickell
Jr. Assistants: Benjamin Battle, Vanessa Battle, Brittani Linton, Max Long, Eric Miles, Colin Wittington
Coordination & Support: Flyer printing & distribution - Bill Ashby with Extension Office assistance; Registrations - Bev Williams; Food planning, purchasing, preparing & serving - Tawy & Cliff Muehe, Lynn Smith & Joie Elmer; Equipment & supplies purchasing - Louise Bell, Margaret Canavan & Mary Jean Hayden Camp Set-up - Hans Haglund & park staff, M. J. & Lane Hayden, Bob Robinson, Shirley & Don Ware along with their daughter & son-in-law; On-site coordination & support - Carey Battle, M.J. Hayden, Tawy Muehe, Bebe Rizo; Song Leader - Margaret Canavan; Camp take-down - the Ware family and whoever else was hanging about!

Some of the Camp Wild Activities

Dr. Steve Alexander helps campers use the minnow seine at Camp Wild.

Squid and Owl Pellet Dissection

Kayaking!

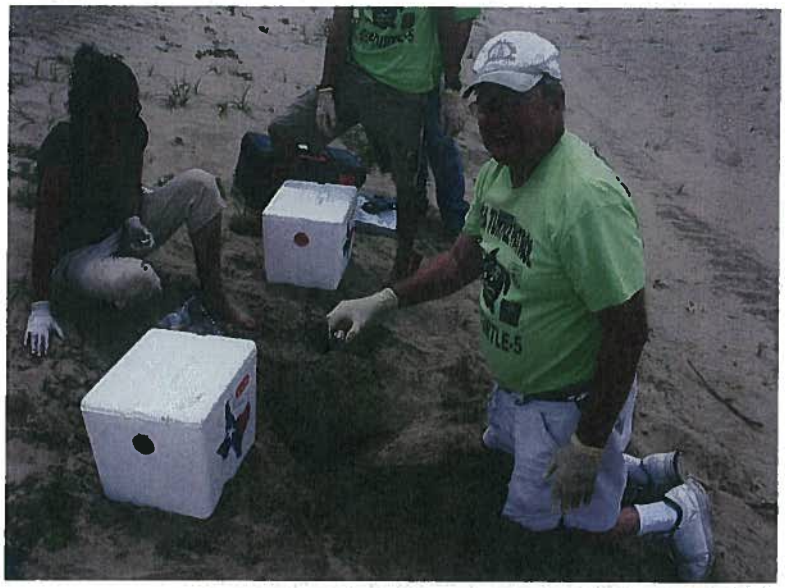
News Tidbits

by Steve Alexander

WORLD OCEANS DAY

June 8, 2009 was the first official United Nations-designated World Oceans Day. This special day was to remind us that we live on a blue planet (oceans occupy 71% of the earth's surface). Oceans are crucial to our every day lives, providing biological and mineral resources, supplying oxygen, regulating our climate, and offering numerous forms of recreation. May we all strive daily to help maintain and preserve this vital resource!

SEA TURTLE PATROL ON GALVESTON ISLAND



Jack Clason holds an egg excavated from a Kemp's ridley nest on May 26th at Galveston Island State Park. It was here a female crawled up behind a rebuilt dune and deposited a total of 62 eggs into a nest before retreating to the water. The eggs were transferred to Padre Island National Seashore for safe incubation.

Editors Note: Many of our GBAC-TMN are very active in litter removal and recycling. This news item was from the link in our last CEC email update. As Master Naturalists, we are not to foster specific political agendas. But as individual voters, we should find out the pros and cons of any proposed legislation.

CEC Houston Environmental News Update July 8, 2009

Stop the Plastic. Stop The Plastic is a Houston based grassroots effort to promote legislation for a Refund/Deposit/Return Bottle Bill for Texas in 2011. 10 states already have bottle bills; many of them established in the late 70's early 80's. Hawaii is the newest as of 2005. The bills take 2 to 3 years to implement after passage and cover aluminum, plastic, and glass drink containers. Opposition is greatest from the grocery industry, distributors, and bottling industry. A bottle bill typically achieves 80-90% recycle rate due to the refund involved, cleans up the waterways, highways, public areas, decreases landfill input, and feeds the recycle industry. The deposits not claimed by consumers are used to manage the program and may be disbursed towards environmental issues of the states. Stop the Plastic is currently drumming up a very wide email contact list of organizations and individuals to be contacted when the time comes to voice your opinion to the state legislators. You can sign up for e-action alerts, share plastic pollution pictures, or ask questions at http://www.plasticpollutiontexas.com. Look for the opportunity to come to one of their Informational Meetings in the near future.

Trashing Texas Beaches Isn't Cool!
The next coast wide cleanup is September 26, 2009

The Texas General Land Office has been sending this message across the state for twenty-two years, and Texans have responded. Since the first cleanup in 1986, more than 374,000 Texas Adopt-A-Beach volunteers have picked up more than 7,100 tons of trash from the Texas coast.

Due to tide patterns in the Gulf of Mexico, trash dumped anywhere in the gulf is likely to end up on a Texas beach. Volunteers record information such as the source and type of debris collected on data cards provided by Ocean Conservancy. This data has been instrumental in the passage of international treaties and laws aimed at reducing the amount of offshore dumping.

Keeping Texas beaches clean and safe is an economic as well as environmental priority. Coastal tourism, a $7 billion industry, and commercial fishing, a $1.9 billion business, demand clean beaches and a healthy gulf to thrive.

The program strives to:

- raise public awareness;
- educate citizens about the source of debris; and
- generate public support for state, national and international action to clean up coastal waters.

The Texas Adopt-A-Beach Program, an all-volunteer effort, is dedicated to preserving and protecting Texas beaches. The program's success is due to the generous efforts of dedicated volunteer county coordinators, coastal community leaders, sponsors and citizens. Strong support from the private sector helps carry our message to Texans all across the state.

Please join us at our next beach cleanup. Request to be put on the Adopt-A-Beach mailing list--please include your name, address, and telephone number. Email us with your input at beach@glo.state.tx.us

Call 1-877-TX COAST (1-877-892-6278) for more information

More on Trash!

A banner at the bottom of Section B of the Houston Chronicle July 13, 2009 stated:

STASH THE TRASH AND KEEP OUR WATER RUNNING CLEAN!

Litter on the street washes into the storm drain on a one-way trip to our bayous, lakes and rivers. So put your trash in the can and keep our water running clean. http://www.cleanwaterways.org/

If you visit the above link, you will find information that is useful to those working with kids, residents, and professionals. If you are baby-sitting the grand kids, take the link to the kids' area and make an Origami Catfish or try out one of the games like Storm Water Rapids or SPLASH.
http://www.cleanwaterways.org/kids/origami_catfish.html

Key to
10 Birds that Everyone Should Know

1. Neotropic Cormorant
2. Great tailed grackle
3. European starling
4. Barn swallow
5. Laughing gull
6. White wing dove
7. Northern mockingbird
8. Great egret
9. Loggerhead shrike
10. Snowy egret

Key to
Ridley's Believe It or Not Sea Turtles

1. Green
2. All five
3. Kemp's ridley
4. Green
5. Kemp's ridley
6. Leatherback
7. Kemp's ridley
8. Hawksbill
9. Loggerhead
10. All five

AgriLIFE EXTENSION
Texas A&M System

Improving Lives. Improving Texas.

The Midden

This newsletter is published by **Galveston Bay Area Chapter – Texas Master Naturalists.**
Texas AgriLife Extension Service
5115 Highway 3
Dickinson, TX 77539-6831

For comments on this issue or to suggest content for future issues, please contact **Nathan Veatch at 281-480-6985** or by e-mail at nveatch@swbell.net

Editorial Staff:
Nathan Veatch, editor
Carolyn Miles
Diane Humes
Steve Alexander

Master Naturalist ℠