ARLINGTON CONSERVATION COUNCIL

# POST OAK

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JULY – AUGUST 2021

GREAT BLUE HERON AT SOUTHWEST NATURE PRESERVE
PHOTO BY BOB BRENNAN

boBBrennan PHOTOGRAPHY

# August Zoom Meeting

## DFW Air Quality and More

### Jim Schermbeck, Director, Downwinders at Risk

## Wednesday, Aug. 4

### Social time and equipment setup 6:30 p.m. Program begins 7 p.m.

**Join the Zoom meeting by clicking this URL https://us06web.zoom.us/j/81795136823**

Born and raised in Fort Worth, Jim Schermbeck obtained his undergraduate degree from Austin College and did postgraduate work at the University of North Texas and UT Arlington. From 1977 to 1988 he worked to stop the Comanche Peak nuclear power plant as a volunteer and professional organizer. He was program director of the Dallas office of the National Toxics Campaign from 1989 to 1994, where he helped DFW residents identify two Superfund sites, including the former RSR lead smelter in West Dallas. He has been with Downwinders at Risk since 1994 and director since 2007.

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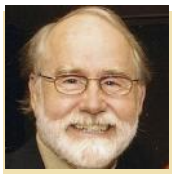

# From the President

**Dick Schoech**

### Environmentalists' Golden Years to Influence Climate Change Are Now

Slowing climate change may not be as overwhelming as it seems. New tools and allies will help us win.

Over 65 percent of the world's population has Internet access.[1] This number will gradually increase and will get a big boost if President Biden's infrastructure plan is enacted. While large areas still lack access, COVID-19 stay-at-home mandates and video conferencing (Zoom and others) have dramatically increased interconnectedness. Although many seniors struggle to adapt, youth see this interconnectedness as part of living. Linking both groups is needed to harness the opportunities offered by this infrastructure and to lessen the dangers of connectivity, e.g., the rapid spread of fake news.

What does this mean for environmentalists? Many have yet to realize the value of instant access to almost all of the world's information, and Internet tools now enable us to advocate with text, numbers, pictures, and video. Discovering what others have done on our issues and connecting with those groups is easy. Even starting new advocacy groups can be done quickly and efficiently.

Fundraising is much easier and more effective. Reports and position papers that once took months can be completed with better quality in a few days. Mobilizing many people around an issue still takes time, but successes are more common now, especially those that build momentum until major shifts occur. As with any change, those resisting can use the same tools to continue the status quo. But environmentalists have a powerful ally—Mother Nature.

Over the last 10 years, Mother Nature has told humans in forceful terms that what we're doing to the Earth is not okay. Disasters with our water, air, land, animals, and vegetation have become common. Eventually, pandemics, extreme temperatures, sea level rise, floods, droughts, wildfires, hurricanes, species decline and extinctions get people's attention. Just one global disease, COVID-19, has infected

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## ACC POST OAK

**Our mission: ACC works to protect Arlington's natural environment through education, community service and advocacy for a sustainable future**

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Deadline for submissions is the 15th of every preceding month. Please send them to *1darling@sbcglobal.net*

# Bits & Pieces

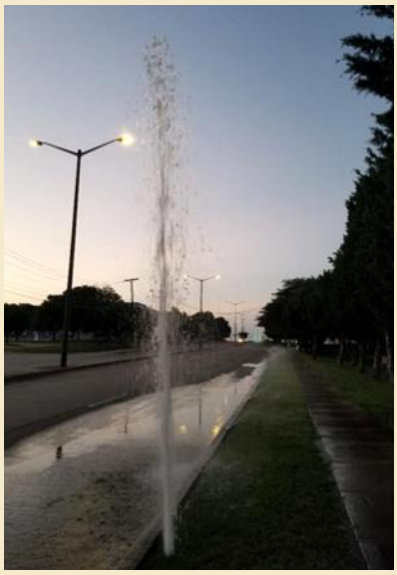
## The Terse Treehugger

Looks like we've got plenty of water.

So let's not spend $4.4 billion and flood 66,000 acres to build that Marvin Nichols reservoir.

A lot of landowners in East Texas think we'd just waste the water on lawns.

See how wrong they are?



## Just a Moth,

This Arkansas clearwing showed up at a moth light recently. It belongs to a worldwide moth family of about 1,400 day-flying moth species. Almost all mimic wasps and other hymenopterans. Unlike many of its relatives, this one appears not to be an agricultural pest. So we can put that aside and focus on the evolutionary marvel of mimicry.

## Star Bright...

Lots of us are concerned about plastic waste. Without a doubt, the worst kind has to be the totally gratuitous waste, like these happy plastic stars that were tossed around at a parade without a thought for their future — or for ours.

**visit us on the web**
**www.acctexas.org**

*Yellow passionflower*

**Join us and act locally. Use the application form on the back page.**

# Question Corner John Darling

Q: Okay, this is no joke: Whenever I'm not obsessing about our doomed planet, my mind is churning with a chaotic stew of questions. It's a mess, from huge to hopelessly trivial. It's clear that you think highly of yourself, so I'm giving you a sample. Do something, anything, to shut them up and make them go away:

*Q: What's wrong with feeding bread to the ducks? I see it all the time but no evidence of any harm. What am I not seeing?*

A: You see nothing because all of those malnourished ducks are immediately ravaged by ravenous raccoons, their bones dissolved by nightmarish strains of blue-green algae grown extra toxic by feeding on additives in rotting bread.

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*Eve's necklace*

# From the President continued from page 3

over 190 million and killed four million more. Our youth, like Greta Thunberg, are demanding one overarching goal for all humans: Save the planet.

The tide is changing and most cities have action plans to address climate change. As more people become concerned, politicians and other leaders must follow or lose their power. It soon will be unacceptable to fail to work to save the planet.

Environmentalists are beginning to realize that these are our prime years to fight climate change. With internet tools and connectivity readily available, now is the best time to influence a worldwide audience. We cannot neglect the basic tasks like planting trees, removing trash, pulling weeds, and eradicating privet, but the difficult task of changing hearts and minds is now much easier. Environmentalists have powerful allies in well-researched data, tech savvy and concerned youth, and in Mother Nature inflicting disasters that demand a response. Our planet is crying for help and environmentalists are in their best position ever to effect change.

Why is all this important? Because doing environmental work is now much easier. Whatever your cause, you can quickly link with others who share your passion. Feel proud about what you are doing for the planet and expand your efforts. And we will win this battle, because losing is not an option.

1. https://www.oberlo.com/blog/internet-statistics

# Best Flesh-eating Fly Submission photo by Marian Hiler

Today's lesson: Be careful what you ask for. Maybe you're a volunteer newsletter editor, chronically desperate for fodder. And maybe all your dreams come true and you receive an excellent photo of Arlington wildlife. But there's a fly in the ointment, of course. Not everyone will welcome this flesh fly (Subfamily Sarcophaginae) despite its fine appearance.

Here's a bit of Wikipedia on this creature: Unlike most flies, the young develop within the mother and emerge as maggots on carrion, dung, decaying material, or open wounds of mammals. Some larvae are internal parasites of grasshoppers. Adults feed mostly on fluids from animal bodies and waste, nectar, and other organic material.

# Randol Mill Park Carol Marcotte

The City of Arlington has restored the pond fountain in Randol Mill Park. There are several good reasons for a fountain in the pond, including the following:

**1. Improves water quality**
Under oxygen-deprived conditions, bottom sediments release noxious gases and metals that can cause water quality problems. Proper aeration allows for many of the factors contributing to poor water quality to be mitigated.

**2. Reduces the likelihood of excessive algae growth**
The oxygen that is added through lake aeration facilitates the conversion of phosphorus to forms that are not usable by algae as food. Aeration can also effectively move algae spores toward deeper areas where they will have less available sunlight and time to grow.

**3. Removes foul odors**
As bottom water mixes and becomes oxygenated through aeration, the hydrogen sulfide gas that causes foul odors will be greatly reduced.

**4. Enhances fish habitat**
Stratification occurs when changes in water temperatures cause distinct layers of water to form at different depths based on differences in water densities. Thermal stratification results in periods of oxygen depletion that will cause an overall decline in ecosystem efficiency and, in severe cases, may lead to fish kills. By disrupting stratification through aeration, a healthier habitat will be created for fish and other aquatic organisms.

*Workmen replacing fountain pump July 7, 2021. Photos by Carol Marcotte.*

*The restored fountain*

**5. Decreases mosquito activity**
Mosquitoes require still water for their eggs to develop. A floating fountain or submersed aerator will create a constant flow of water, helping to reduce viable mosquito breeding habitat and acting as a natural and sustainable mosquito control solution.

**6. Reduces the accumulation of bottom sediment**
Organic matter decomposes much more slowly under low oxygen conditions, and this leads to the buildup of bottom sediment. Proper aeration will help to reduce the accumulation of organic sediment, potentially prolonging or preventing the need for future dredging.

The information above has been adapted from information on **this site**.

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# Randol Mill Park continued from page 7

The retaining wall along Oakwood at the curve near the Randol Mill Garden Homes Clubhouse was replaced in July 2021. Originally railroad ties, now additional dirt and boulders are used as a replacement.

The area was under construction for flooding control in 2018. At that time the city installed a larger culvert to accommodate additional rainwater from the garden homes area into the Randol Mill Park pond. An extra culvert was installed. The retaining wall is the last of that project.

*Photos by Carol Marcotte*

# Through the Editorial Window John Darling

Last week a terrible commotion interrupted a bout of hard work on your newsletter. All the racket came from a blue jay poking at something on the fence, while two cardinals flopped around nearby. I feared the worst and checked later while filling a bird (read squirrel) feeder. A nest, still intact, but no cardinals in sight. More blue jay villainy? But during the next days of unrelenting newsletter labor, a female cardinal sneaked in and out of the spot, so there's still hope. I know, blue jays have babies to feed, too, but we all have our biases.

# Rosalie Returns (Briefly) Ann Knudsen and Carol Marcotte

Rosalie Rogers, a good friend to many of us, visited Arlington for the first time since moving to North Carolina last year. Several friends gathered recently for potluck brunch to welcome her back.

After volunteering at the wildscape for about 15 years, Rosalie and her husband moved last year. We have missed her, not only for her help in maintaining the wildscape, but also for her friendship. Rosalie — Mensa member, avid nature lover, world traveler, and 3rd degree Taekwondo black belt holder — always has good stories to share.

Rosalie's favorite places to vacation usually involve archeology or nature, such as Easter Island or Machu Picchu. She has also spent vacation time volunteering on archeological digs, bringing back tales of what was discovered, including the time she found a mammoth bone at the Parker County mammoth dig.

We were very happy to be able to see her even for a little while when she returned to Arlington for a visit. This time her stories were of their new home in a small town in the mountains and her latest adventures in volunteerism there, for a nature garden of course.

Maybe on her next return visit we will hear of her trip to Angkor Wat in Cambodia, Rosalie's most wanted destination on her bucket list.


*After the brunch: seated left to right, Ann Knudsen, Molly Hollar, Rosalie Rogers, and her brother, David Rogers. Photo courtesy of Paul Knudsen.*

# Our Venomous Snakes, Part 2 Michael Smith

*A western diamond-backed rattlesnake*

**Our Venomous Snakes: Venoms and Snake Bite**

In North Texas, we are blessed (from a herpetologist's point of view, anyway) to have representatives of all four "kinds" of North America's venomous snakes: rattlesnakes, copperheads, cottonmouths, and coralsnakes. When we are camping or just taking a walk in the woods, these are the snakes that we should watch out for, because a bite from any of them is a medical emergency.

East Texas has the eastern copperhead, a two-toned tan to reddish-brown snake with hourglass-shaped crossbands. As you move west, there is a transition into the broad-banded copperhead with a slightly darker pattern and broad crossbands. The northern cottonmouth is a chunky relative of the copperhead whose babies start out reddish and cross-banded a little like a copperhead but darken as they grow until they might be nearly plain dark brown. In our area we have four kinds of rattlesnakes, with the two biggest being the western diamondback and the timber rattlesnake. In a few places we might see two smaller species, the western massasauga and the western pygmy rattlesnake.

Together, the copperheads, cottonmouths, and rattlesnakes are "pit-vipers," a name referring to the heat-sensitive pits in their faces. They have relatively long

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*An eastern copperhead*

# Our Venomous Snakes, Part 2 continued from page 10

fangs that fold against the roof of the mouth when not in use, and venom that acts mostly to break down tissues ("hemotoxic" venom).

*A northern cottonmouth, gaping to warn off an intruder. The fangs are folded against the roof of the mouth, and the snake is not attempting to bite.*

We occasionally see Texas coralsnakes in our area. These are fairly small, shy and secretive snakes with black, yellow and red rings. That is the usual pattern, but some coralsnakes have speckles or blocks of black color within the red rings, and the occasional genetic outlier may be mostly black. As is the case with other snakes, there is no perfect rule for identifying which ones are dangerous.[1]. Coralsnakes have small heads, short fangs, and venom that primarily acts on the nervous system ("neurotoxic" venom).

There are a few other Texas snake species that have venom, sort of. Such snakes have glands that produce toxins and bigger teeth in the back of the mouth that can help get the toxin into the bloodstream of a small animal that the snake intends to eat. I'm not counting such species (lyresnakes, nightsnakes, or the hog-nosed snakes, for example) as "venomous" because bites from them are rare or nonexistent, most of them are small species, and their toxins are not medically significant for humans.

***Pit-viper venom***

Pit-vipers (rattlesnakes, copperheads, and cottonmouths) have relatively large venom glands that help make their heads look chunky and somewhat arrow-shaped. Each gland is connected to a fang by a small tube or duct. When a rattlesnake strikes at a rat that it wants to eat, its mouth opens as the snake lunges forward, and muscles pull the fangs down into position. When the snake bites the rat, muscles at the back of the head squeeze the venom glands so that venom travels through the hollow fangs and is injected into the animal. The venom goes to work immediately, first disabling the rat and rapidly killing it so that it does not get away, and additionally beginning to break down its tissues, starting the process of digestion before the rat is even swallowed.

*A Texas coralsnake*

Snake venom is a cocktail of various substances that, depending on the species, attack blood cells and blood proteins, blood vessels, muscles including the heart, and connective tissues. Some snake venoms interfere with nerve transmission. In most pit-vipers, venom primarily affects tissues such as blood, the cardiovascular system, and muscle, resulting in swelling, bruising, problems with blood pressure as well as with the ability of blood to clot. More detailed

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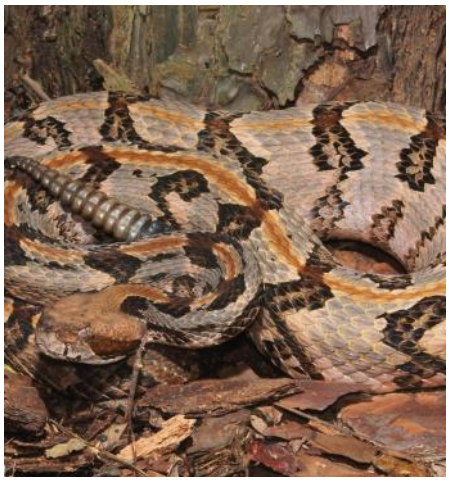
# Our Venomous Snakes, Part 2 continued from page 11

information about pathophysiology (how snake venom damages the body) can be found online in a series of articles by Dr. Spencer Greene published in Medscape.[2]

Although the venom of most pit-vipers is described as hemotoxic, a few North American rattlesnake species are nonconformists when it comes to venom. Their venom may contain significant neurotoxic components and so they may cause symptoms such as weakness or paralysis. One of those snakes is the Mojave rattlesnake (found in the Trans-Pecos region of Texas) and the other is the timber rattlesnake, which occurs in a few North Texas localities. Different populations of the timber rattlesnake in different geographical areas may contain venom that is primarily neurotoxic, primarily hemotoxic, or both.[3]



*A timber rattlesnake*

***Coralsnake venom***

Coralsnakes have venom glands connected to each fang by a duct, but unlike the pit-vipers, the fangs of coralsnakes are short and fixed in position, angled a little toward the back. As a result, people sometimes have the mistaken idea that a coralsnake is only able to inject venom if it hangs on and chews. This is not true; a coralsnake can bite, inject venom, and let go. Because coralsnakes are shy and generally focus on getting away when they are disturbed, bites are rare and generally happen if the snake is handled or restrained.

These snakes eat other snakes and lizards, and generally grab their prey and hang on. Their venom tends to stop the prey from struggling and thrashing by interfering with the action of the other animal's nerves and paralyzing it.

According to Greene,[4] the effect of coralsnake venom on humans could include such things as neuromuscular paralysis. However, in a review of all bites from Texas coralsnakes that were reported to the North American Snakebite Registry over a period of five years,[5] none of the fourteen patients developed symptoms severe enough to require antivenom. All of them experienced paresthesias, which are altered sensations such as the pins and needles feeling when your arm has "gone to sleep" when you lay on it and press a nerve. Several of the coralsnake patients described their paresthesia as feeling "electric," and three of them experienced pain rated as "severe."

***What are the chances that I will be bitten?***

The CDC reports that "each year, an estimated 7,000–8,000 people are bitten by venomous snakes in the United States, and about 5 of those people die."[6] Even that number of venomous snake bites is too many, but this means that snake bite affects only 0.002% of the U.S. population annually.

Death from snake bite is even rarer. In Texas, Price[7] cites mortality from various causes between 1997 and 2005 from the Bureau of Vital Statistics. There were only five deaths from venomous snake bite, as compared to 45 deaths from lightning strikes.

These are statistics from the overall population, and we can assume that those of us who go hiking, camping, and spending time in nature might be at a little greater risk just because we are closer to the snakes. In part one of these two articles I discussed

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# Our Venomous Snakes, Part 2 continued from page 12

some ways for nature-lovers to minimize risk of snake bite. With a little bit of safety awareness and avoiding close contact with snakes, venomous snake bite should be very low on our list of worries.

Sometimes a venomous snake bites but does not inject venom (the so-called "dry bite"). It can happen, but don't count on it. There are varying statistics on how often dry bites occur, but suffice it to say that most bites by venomous snakes result in some venom being injected. If you are bitten by a snake you think might be venomous, do not hesitate to go to the nearest hospital for treatment.

***If you are bitten – what NOT to do***

I'm not a physician, and so any part of this article regarding first aid and medical treatment is based on my review of articles and treatment protocols that were written by physicians and trained authorities. Don't take my word for it, listen to physicians and medical toxicologists. Principally, I relied on the Unified Treatment Algorithm, developed by a consensus team of experts,[8] the Medscape series of articles by Spencer Greene,[9] and the Wilderness Medical Society's practice guidelines for snake bite.[10]

I still remember my snake bite kit that I had when I was a kid, back when the best wisdom was to apply a tourniquet, cut the fang marks, and suck out the venom. If you still have one, throw it away! Or treat it as a piece of history that we have outgrown, even though you can still buy such kits. The medical authorities I reviewed all say that cutting fang marks just adds more injury and you cannot suck out any significant amount of venom. Tourniquets are extremely damaging, and constricting bands or anything that keeps hemotoxic venom trapped around the site of the bite just worsens the damage to that area.

What about ice? Some experts will tell you that using an ice pack for pain relief, applying it for short periods and leaving it off at other times, is OK. All the experts reviewed agree that applying ice for longer periods will add more damage and do nothing to treat the envenomation.

The experts also warn that managing pain with aspirin or other non-steroidal anti-inflammatory drugs (NSAIDs) is not recommended because these drugs affect bleeding and clotting, which are already likely to be affected by pit-viper venom and don't need anything else throwing them into chaos. The experts advise against using alcohol or common medications (NSAIDS, Benadryl, etc.) before getting to the hospital.

Electric shock began to be talked about in the 1980s as a treatment for venomous snake bite. Stories emerged of people hooking their friends up to a car battery or tasing a snake bite victim as a way to try to neutralize the venom. All this turned out to be misguided and electricity has been shown to be useless and potentially harmful in snake bite first aid.

***So what can you do?***

Jim Harrison of the Kentucky Reptile Zoo says you need two things if you are bitten by a venomous snake: a car and someone to drive you to the hospital. What he means is that the truly helpful things are going to happen in the hospital, so don't waste one minute getting there. Snake bite experts say, "time is tissue," meaning that the more quickly you reach the hospital, the less tissue will be damaged by pit-viper venom before you can receive antivenom.

Do not worry too much about identifying the snake that bit you. The treatment you will get will be based on what symptoms you

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# Our Venomous Snakes, Part 2 continued from page 13

have, not on the exact species of snake. If you or a companion can *quickly* and *safely* take a photo of the snake, do so, but do not endanger yourself trying to kill the snake and for goodness sake don't take the snake along for the ride to the emergency room! (People have been known to take the snake – captured alive – to the ER, and that endangers everyone nearby and does not substantially help inform treatment.)

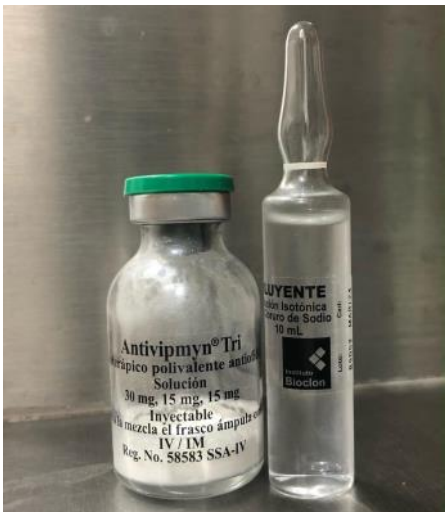
One very helpful thing that you should do immediately is to take off any rings or other jewelry on the limb involved in the bite. Especially with pit-viper bites, there will be considerable swelling and a ring will act like a tourniquet, depriving a finger of oxygen, intensifying the swelling, and adding to the damage. Additionally, you should keep the victim from moving around if at all possible and help them to be as quiet and calm as they can be.

*Swelling, bruising, and tissue damage from a hemotoxic snakebite (Photo courtesy of Kentucky Reptile Zoo)*

You may run into advice about elevating or not elevating the bitten limb. In the case of a pit-viper bite, Spencer Greene outlines reasons to elevate the bitten limb or at least place it no lower than the heart (in the case of rattlesnake bites).[11] Positioning it lower than the heart aggravates swelling, he says, risking damage and adding to the patient's pain.

There is an app that you can get for your smartphone that can be very helpful if you are bitten. SnakeBite911[12] was developed by the makers of CroFab, an antivenom used to treat North American pit-viper bites. It can help you locate a hospital that stocks that antivenom (it does not tell you which hospitals might have Anavip, a newer antivenom made by a different company). It can help you dial 911 or the number for Poison Control and remind you of the things to do and not do while on your way to the hospital. It will prompt you to take a photo of the bitten extremity every 15 minutes so that the swelling and bruising can be tracked as it progresses from the bite toward the heart.

Another resource you should know about is a Facebook group run by venom experts. The National Snakebite Support group (**https://www.facebook.com/groups/**




*Antivipmyn, one of the newer antivenoms (photo courtesy of the Kentucky Reptile Zoo)*

**national.snakebite.support**) receives requests for information and consultation by victims or their families. It is a disciplined group in which only the expert staff are allowed to reply to posts asking for assistance, and this almost completely prevents the misinformation and chaos that we've all sometimes seen in social media. It is sometimes possible to get consultation in real time while sitting in the ER getting treatment.

Consultation such as described above can be helpful because not all emergency physicians have much experience treating snake bite. In his book, *Their Blood Runs Cold,*[13] Whit Gibbons tells the story of being called to the emergency room after a graduate

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student of his was bitten by a timber rattlesnake. After a series of embarrassing clashes about who was the most knowledgeable doctor, Gibbons followed the physician to the back area and discovered that the doc was consulting a boy scout manual!

It's a safe bet that your physician will be better trained than the one in Gibbons' story, but there can still be issues. I recall meeting a friend at the ER a few years ago after he sustained a rattlesnake bite. He needed antivenom and it seemed to take forever for it to arrive. Meanwhile the doc confided in me that he was worried about the swelling in my friend's finger and a fasciotomy might be needed. A fasciotomy – cutting through the covering of the muscle to relieve extreme pressure – is now considered mostly unnecessary for snake bite and can do considerable harm. I was very mindful of the limits of my knowledge and wanted to avoid the kind of confrontation that Whit Gibbons had described. As it turned out, the doc made the very appropriate decision to fly my friend by helicopter to another hospital where there was a specialist.

The clear consensus is that when there are severe symptoms,

*Jim Harrison extracts venom from a western diamond-backed rattlesnake. The venom is then used in the production of antivenom. (Photo courtesy of Kentucky Reptile Zoo)*

antivenom is the definitive treatment. Essentially the antivenom binds to the molecules of the venom to neutralize them and allow them to be removed from the body. If you are bitten by a pit-viper, your first priority should be to get to a facility where antivenom is available and can be administered by people who know what to expect in treating snake bite. Many people, even some physicians, have excessive worries about adverse reactions to the antivenom used for pit-vipers. In one study[xiv] of 373 adults and children who received such antivenom, adverse events considered to be severe occurred in only four (1.1%) of these patients.

***The bottom line***

Bites from venomous snakes are relatively uncommon and almost all are survivable. If you spend much time outside in places where snakes can be found, it's a good idea to learn about the snakes, how their venom works, and what to do (and *not* do) if a bite occurs. Of primary importance is getting to a hospital; if severe symptoms are present you should go to any hospital that can get you medically stable. It might then be advisable to be transferred to a hospital with antivenom and personnel who are experienced in treating snake bite. A person who is not sure they are getting the most appropriate care should advocate for themselves, using resources like the Poison Control Center or the National Snakebite Support group.

**References**

[1]Smith, M. Snake ID takes practice, cautions North Texas expert. Green Source DFW. Online: https://greensourcedfw.org/articles/snake-id-takes-practice-cautions-north-texas-expert

[2]Greene, S. Snakebite: Pathophysiology. Medscape. Online: https://emedicine.medscape.com/article/168828-overview#a5

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[3]Price, A.H. 2009. Venomous Snakes of Texas: A Field Guide. Austin: University of Texas Press.

[4]Greene, S Snakebite: Pathophysiology. Medscape. op cit.

[5]Greene, S., Ruha, A., Campleman, S., Brent, J. & P. Wax. 2020. Epidemiology, clinical features, and management of Texas coral snake (Micrurus tener) envenomations reported to the North American Snakebite Registry. Journal of Medical Toxicology, DOI: 10.1007/s13181-020-00806-3

[6]Centers for Disease Control and Prevention, The National Institute for Occupational Safety and Health. Venomous Snakes. Online: **https://www.cdc.gov/niosh/topics/snakes/default.html**

[7]Price, A.H. op cit.

[8]Lavonas, E.J., Ruha, A., Banner, W., Bebarta, V., Bernstein, J.N., Bush, S.P., Kerns II, W.P., Richardson, W.H., Steven A Seifert, S.A., Tanen, D.A., Curry, S.C., & R.C. Dart. 2011. Unified treatment algorithm for the management of crotaline snakebite in the United States: results of an evidence-informed consensus workshop. BMC Emergency Medicine, online: **http://www.biomedcentral.com/1471-227X/11/2**

[9]Greene, S. Snakebite: Pathophysiology. Medscape. Op cit.

[10]Kanaan, N.C., Ray, J., Stewart, M., Russell, K.W., Fuller, M., Bush, S.P., Caravati, E.M., Cardwell, M.D., Norris, R.L., & S.A. Weinstein. 2015. Wilderness Medical Society Practice Guidelines for the Treatment of Pitviper Envenomations in the United States and Canada. Wilderness and Environmental Medicine, 26, Pp. 472–487.

[11]Greene, S. 2018. Snakebite Management (Pre-Hospital). Online: **https://wsed.org/snakebite-management-pre-hospital/**

[12]BTG Specialty Pharmaceuticals. SnakeBite911 App. Online: **https://crofab.com/crofab-resources/SnakeBite911/SnakeBite911**

[13]Gibbons, W. 1983. Their Blood Runs Cold: Adventures with Reptiles and Amphibians. Tuscaloosa: University of Alabama Press.

[14]Kleinshmidt, K., Ruha, A., Campleman, S., Brent, J. & P. Wax. 2018. Acute adverse events associated with the administration of Crotalidae polyvalent immune Fab antivenom within the North American Snakebite Registry. Clinical Toxicology, DOI: 10.1080/15563650.2018.1464175

# Sunflower Summer John Darling

It's the best, most yellow summer since a groundskeeper dumped several dead sunflowers from the community garden at the UTA compost site about four years ago. More every year, growing wherever they want, and never whimpering for water (at least not so far). Maybe not too good in a carefully designed pollinator garden, but these hairy brutes are the cat's pajamas when it comes to feeding house finches and insects. Four bumblebees at one time on a single plant! *Below left,* the largest patch, growing on a pile of very old leaves. *Below right,* unflattering view of a bumblebee.

*Above left,* Down but not out. Going strong three weeks after the fall. *Above right,* Doomed. A rare conflict: Compost had to move, but the remains received a dignified burial in a new compost pile. *Below left,* All those flowers, all that guilt. *Below center,* A **pebble bee** (probably). *Below right,* Plumbing: water up, food down.

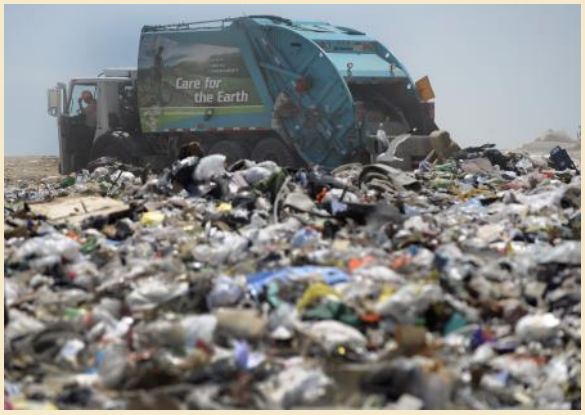
# Question Corner continued from page 5

*Q: Is it okay to relocate wild animals I've trapped in my yard to a wild area?*

A: Of course, just as long as it's a wild area on a parallel planet that fulfills every ecological requirement of the creature to be released (a raccoon named Fluffy, for example) but oddly lacks all resident raccoons that would immediately attack and kill Fluffy or slowly outcompete her until she succumbs to lingering, painful ailments.

*Fluffy*

*Q: After blowing my nose with toilet paper, is it better environmentally to flush it or throw it in the trash?*




A: Toilet paper?

You think God invented sleeves on a whim? Flush it and you've increased the load at the water treatment plant while introducing whatever exotic pharmaceuticals you're on into everybody's drinking water supply. Trash it and the snot organics will break down into methane, which has a global warming potential 84 times greater than $CO_2$ over the first 20 years. There's no better here; both solutions are just bad.

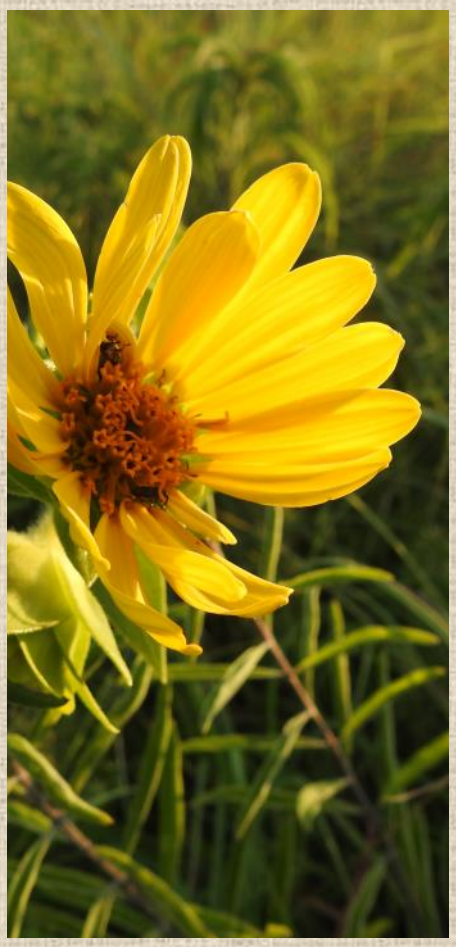
But don't despair. We can tie it all together so you can ease that troubled mind. All we need is clear thinking and a subset of the Theory of Everything.

1. Gather up all the people who won't stop feeding Wonder Bread to ducks.
2. House them in reasonably pleasant surroundings (e.g., any undocumented immigrant tent camp).
3. Introduce all the relocated raccoons, and throw in all the feral cats. (Be sure they're shedding in order to encourage sneezing.)
4. Attach the humans to snot-trapping devices (STDs) and collect the sneeze product.
5. Process appropriately.

You already know that stuff is 97% water, and we're foolishly planning to build a hideous reservoir. So that's one problem solved. The other 3% includes proteins. Climate change is exacerbated by world demand for protein, so let's consider a benign version of Soylent Green and, presto!, we've fixed yet another problem.

It's a pleasure to help a real person for a change. Next!

# Blackland Prairie Site Guy Random



*In early July it wasn't yet an oven, and our tiny prairie still seemed fresh, even vigorous, despite the absence of recent rain. We know what's coming, and we know, too, that this place will prevail.*

# Molly Hollar Wildscape Update Marylee Thomason

The dog days of summer denote a feeling of oppressive heat and waning energy, but the wildscape defies all of that. New plants, glorious blooms and enough stones to build a border wall all add to the beauty and community.

*The wildscape's new pinup girl, Ann Knudsen*

Gardeners often share plants. This month Ann Bloxham shared stones. It took seven pickup loads to get them all. Here's the story told by Ann Knudsen, who participated in all but one of the loading and unloading sessions:

Last Saturday, while Ann Bloxham and I were there, just beginning to unload stones, this nice couple, Jessie and Tonya Merimon, who regularly visit the park, offered to help. We were sooooo happy to accept their offer. Ann B. and I went back to load our trucks with more.

Second time we came back, Jim Runzheimer was there, working on the Great Southwest Rotary Club pollinator garden. He stopped to assist us. We were very grateful for the unexpected help. We quit for the day after that.

Monday, James Hiler and I went to get another load and deliver more stones to the wildscape. Then Wednesday, Ann B. brought two more loads. Finally, on Friday, Joe Martinez and I picked up the last load. Probably all and all about a ton and a half of stone!

We were so thankful for Ann Bloxham's generous donation and help getting the stones to the wildscape. Ann was sad she had to remove them from her landscape but said she was very happy they have a good home. We will be determining where they'll be used soon. So many possibilities.

Stay tuned for the next chapter in the story.

Challenge yourself to think of a time or place when total strangers and occasional gardeners stopped to help unload truckloads of stone. It's just the magic of founder Molly, who imbued the wildscape with her warmth.

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*Left, stone donor Ann Bloxham. Center, stone movers Tonya and Jessie Merimon. Right, stone enthusiast Joe Martinez*

# Wildscape Extra text by Marylee Thomason, photos by Ann Knudsen

*Above,* The mesquite tree bloomed beautifully this year, towering over the sign with Molly Hollar's picture, seemingly celebrating her creation of the wildscape. *Below left,* Jane Oosterhuis justifiably gloried in the success of the partridge pea seeds she sowed near the photo op garden. *Below right,* Wildscape blooms are spectacular this month, with the sun and our earlier copious rainfall.

*Below left,* Common buckeye caterpillar on snake herb. Josephine Keeney took it home to raise. *Below center,* Spikey bud of *Eryngo yuccifolium* or rattlesnake master. *Below right,* Texas milkweed. This is one of the easiest milkweeds to grow. It likes edges and morning, not afternoon sun.

# In Case You Missed It Grace Darling

**Tidal power rocks.** Orbital Marine Power's O2, the world's most powerful tidal turbine, has started grid-connected power generation in Orkney, an archipelago off the NE coast of Scotland. The **floating turbine** is 74 meters long and weighs about 680 tons. It is expected to operate in the waters off Orkney for the next 15 years with the capacity to meet the annual electricity demand of around 2,000 UK homes with clean, predictable power from the fast-flowing waters and reduce CO2 emissions by 2.2 tons per year. Electricity is supplied through a submarine cable at the rear of the structure.

*The floating turbine has the capacity to meet the annual electricity demand of around 2,000 UK homes. Credit: Orbital Marine Power*

Construction of the O2 turbine was made possible by public funding through the ethical investment platform, Abundance Investment, with further support by the Scottish government and grants from the European Union's Horizon 2020 program and the European Regional Development Fund's North-West Europe program. Orbital Marine Power is now planning to scale up operations with multi-MW installations. And the costs are expected to drop significantly as the technology is rolled out. "*Our vision is that this project is the trigger to the harnessing of tidal stream resources around the world to play a role in tackling climate change whilst creating a new, low-carbon industrial sector," said its CEO.* [*InceptiveMind,* July 30, 2021]

**More help from the oceans.** Seawater could provide nearly unlimited amounts of critical battery material, *Science* magazine reports. Booming electric vehicle sales have spurred a growing demand for lithium. Lithium is prized for rechargeables because it stores more energy by weight than other battery materials.

*Lithium being extracted from seawater in Bolivia*

Manufacturers use more than 160,000 tons of the material every year, a number expected to grow nearly 10-fold over the next decade. But lithium supplies are limited and concentrated in a handful of countries, where the metal is either mined or extracted from briny water.

Now, researchers at Stanford University report success tapping a virtually limitless lithium supply: pulling it straight out of seawater. The technique is still not likely cheap enough to compete with mining lithium on land, a lead investigator says, but her group is working on a fix by using other types of lithium-ion battery electrodes. The approach might also prove useful for recovering lithium from discarded batteries, giving the

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# In Case You Missed It continued from page 22

metal a second lease on life — and potentially supercharging the ascendancy of electric vehicles. [*ScienceMag.org,* July 13, 2020]

**Brutal choices.** What to save? Climate change forces brutal choices at national parks. So read the headline in the NYT, explaining how as the planet warms and ecosystems are being transformed, the National Parks Service is faced with the realization that its traditional goal of absolute conservation is no longer viable in many cases. In a recently published guidance to park managers, the agency aims to help park ecologists and managers confront the fact that, increasingly, they must now actively choose what to save, what to shepherd through radical environmental transformation, and what will vanish forever. The document focuses on how to plan for worst-case scenarios, decide what species and landscapes to prioritize, and how to assess the risk of relocating those that can't survive otherwise. Decisions about what to protect are especially imminent for forests, where changes are leading some researchers to wonder if the age of North American woodlands is **coming to an end**. In the United States Southwest, for example, research suggests that, in the event of wildfires, **up to 30% of forestland might never grow back** because global warming favors shrubs or grasslands in their ranges. Grim reading indeed. [*The New York Times,* May 18, 2021]

***PLUM TREE***

Twenty years ago
I placed a baby plum tree
Into a hole I'd dug.

I watered,
Watched, and cared
For that tree.

Five years no flowers,
No seen reward
For all my work and time;

But then it bloomed --
A few at first, eventually
A rare cloud of white.

Bees swarmed
Each spring, feasting
On sweet nectar.

Now and then
Small fruit formed,
Ripened, dropped to ground.

And once or twice
A new tree sprouted
Underneath.

Plums lead short lives;
In 15 years mine died,
Succeeded by its children.

Yesterday, my birthday
(The 80th, but who's counting)
The dead tree, tall, bare,

Was taken down,
Chopped in chunks, then tossed
Beneath a nearby hedge,

There to wait decay,
Disappear beneath the soil,
Return to whence it came.

A shame it's not that easy
To care for us as thoughtfully.



Red-femured milkweed borer

# Southwest Nature Preserve Annabelle Corboy and Jim Frisinger

## Friends of SWNP Events & Programs

***Friends of SWNP events and programs are free and open to the public.***

For more information about Southwest Nature Preserve and to sign up for email updates, see **www.swnp.org** or email **info@swnp.org**.

Friends meetings, programs and activities continue to be on hold due to the COVID-19 pandemic. You will enjoy much more about the preserve when you take a look at the **December newsletter**.

## Upcoming Program hosted by Friends of SWNP

### Looking for Spiders – Saturday, August 14, 7:30 p.m.

An evening walk at SWNP

Meghan Cassidy, a spider enthusiast and a seriously good photographer, will help us find some spiders hiding in the plants and preying on some of our least favorite insects. We should be able to find both day and night spiders.

Wear sturdy shoes or boots, maybe bring bug spray and water, and especially a good flashlight or headlamp with fresh batteries. The walk back will be in the dark, so a good light will be essential.

Please look for details and updates at **http://www.swnp.org** or **https://www.facebook.com/FriendsofSWNP**

*Golden orb-weaver*

*continued on page 25*

# Southwest Nature Preserve continued from page 24

## May iNaturalist Observations at SWNP Annabelle Corboy

June seemed to be both spring and summer! Rain, heat, and humidity with an occasional perfect day. During June we had 485 Observations, 240 Species, and 16 Observers.

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Above from left, Black-eyed Susan *(Rudbeckia hirta)* - Observed by bob777, Wild bergamot *(Monarda fistula)* - Observed by Brentano, Fourpoint evening primrose *(Oenothera rhombipetala)* - Observed by charley



Above from left, Blue dasher *(Pachydiplax longipennis)* - Observed by Brentano, *Chrysanthrax cypris* - Observed by sambiology, Silvery checkerspot *(Chlosyne nycteris)* - Observed by sam_moore_



Above from left, Swift Setwing *(Dythemis velox)* - Observed by Brentano, Rose Pavonia *(Pavonia lasiopetala)* - Observed by joshmols, River Cooter *(Pseudemys concinna)* - Observed by bob777

# Southwest Nature Preserve continued from page 25

## Recent Activities Annabelle Corboy

During June, SWNP hosted two programs that focused on wildlife.

*Rachel Richter, TPWD Urban Biologist*

**On June 15,** Rachel Richter, an Urban Wildlife Biologist for Texas Parks and Wildlife in DFW, talked about the tools and adaptations wildlife uses to allow them to survive in cities. This year Rachel and the TPWD have created the DFW Urban Wildlife Research project in conjunction with the Urban Wildlife Information Network (urbanwildlifeinfo.org). April 2021 was the first sampling session. Camera traps are set up four times a year in Tarrant and nearby counties to see what wildlife are present. The first session captured photos of the wildlife you'd expect, such as coyotes, foxes, deer, and raccoons. There were some nice surprises as well — the downtown FW camera captured an eastern spotted skunk and later a ringtail — both unusual sights in north Texas. The next sampling period starts in July. Anyone interested in helping with photo review is welcome to contact Rachel via email: Rachel.richter@tpwd.texas.gov. You can view Rachel's entire presentation (How Wildlife Survives in the City) at https://youtu.be/dUkduQDE-h4

*Kate Rugroden, Bat World Sanctuary*

**And on June 18**, we were back at the preserve to learn about and look for bats (Bats of the Area and How to Find Them). Kate Rugroden from the Bat World Sanctuary, along with local bat enthusiasts Ellen Ravkind and Anne Alderfer provided our program, held at the amphitheater overlooking the south pond. Kate talked about the bats in this area and the role the sanctuary plays in education and rehabilitation. Ellen and Anne demonstrated the use of the echolocation devices from Wildlife Acoustics (Echo Meter Touch 2).

We began to see bats flying overhead during Kate's talk, too fast for anyone to ID. But once Anne and Ellen turned on their echolocation systems, we were able to count them and find out which ones were there. The recap is thanks to Anne Alderfer. The results include a "test sample" Anne took at SWNP on June 17th.

- Seminole (23 recordings, the most prominent species)
- The following have 1-3 recordings and are found commonly in our area: Evening, Tri-colored, Eastern Red, Mexican, Southern Yellow, and Hoary.
- These three were identified as possible: Big Brown, Silver Hair and Cave Myotis.
- Not normally found in our area: Western Yellow.

To learn more about bat rehabilitation in this area, check out www.batworld.org or www.bwmidcities-batworld.org.

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# Southwest Nature Preserve continued from page 26

**During our July 20 Program**, "Past Climate: Putting the Puzzle Together", Angela Kline-Osen, PhD discussed how scientists use geology, paleontology, biology, and models to help determine possible climatic conditions of the past. Her focus was on Texas, particularly the DFW region, but she also expanded a bit about the Permian-Triassic period (about 250 million years ago) as that is where much of her research has been concentrated.

Dr. Kline-Osen is a Professor at Tarrant County College where she regularly teaches Earth Science and Oceanography. She has also served as Field Camp Coordinator for Geology Field Camp and taught Earth Systems as well as Historical Geology at the University of Texas at Arlington. She received her PhD in Earth and Environmental Science and from the University of Texas at Arlington where her research concentration was on Paleoclimate and Paleoceanography. She also has her Bachelor of Science in Geology through UTA.

## Prairie Rehabilitation text and photos Jim Frisinger

Prairie restoration is a learning laboratory.

Discoveries abound from the ongoing restoration of a 2.4-acre prairie by the Friends of Southwest Nature Preserve. Most are delightful, some not so much.

The wonders include finding a 22-plant colony of rare Glen Rose yucca, patches of American germander and wild 4 o'clock and sesbania. There is also great delight in seeing the encroaching forest rolled back to create lovely glens of this ecotone that are characteristic of the Eastern Cross Timbers here. These are transition zones between two biological communities — the grand prairie and the forested cross timbers.

More sobering is learning how deep into adjacent woods invasives still remain – such as Chinaberry and honey locust — a threat to the future. Because they are no longer kept in check by periodic prairie fires, we will have to be watchful of them.

*continued on page 28*

*Wild 4 o'clock*

*Recent discoveries: left, American germander, right, sesbania*

# Southwest Nature Preserve continued from page 27

*An old mighty post oak is still crowded by remaining Chinaberry and honey locust.*

*Glen Rose yucca colony*

*Removal of sumac and other invasives returns a beautiful ecotone to this portion of the Eastern Cross Timbers.*

### ARLINGTON CONSERVATION COUNCIL MEMBERSHIP APPLICATION

Memberships are good for one year, renewable each January. Your dues go directly to our public education efforts.

**Membership Information**

Name _____

Address _____

_____

Phone _____

Email _____

First-year member $10

Individual $15

Family $25

Supporting $40

Sponsor $100

Lifetime Individual $250

Other $_____

New Member ☐

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How did you hear about us? _____

Make checks payable to Arlington Conservation Council. Mail to ACC, Box 216, Arlington, TX 76004-0216. Or pay via PayPal paypal.me/ACCtexas. Contributions and dues are tax-deductible. ACC is a nonprofit, tax-deductable 501(c)(3) organization. If you cannot pay, let any board member know. The newsletter is available via email and the ACC website.



**POST OAK**
**Arlington Conservation Council**
**P.O. Box 216**
**Arlington, TX 76004-0216**

## August Zoom Meeting
## Wednesday, August 4, 6:30 pm

## DFW Air Quality and More
## Jim Schermbeck