



TORREYANA

THE DOCENT NEWSLETTER FOR
TORREY PINES
STATE NATURAL RESERVE

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July 2022

Snakes Alive!

by Dan Hammer

When you attend a talk on “Dangerous Snakes of San Diego County,” you figure you’ll come away scared. But after Steve Bledsoe’s informative, lively, and *live* presentation to the June TPDS meeting, I came away with this reassuring knowledge: Our local venomous snakes are *not* aggressive, and they will *never* chase you.

Still, there are plenty of opportunities to get bitten by a rattlesnake if you inadvertently corner or step on one – or if you foolishly attack or pick one up. Steve gave docents some valuable tips on how to identify our local dangerous snakes, what to do if you encounter one in the wild, what to do if you are bitten, and how to stay safe in the field. In addition, like our other good wildlife speakers, Steve separated fact from fiction when it comes to snakes.

Of the 292 snake species and subspecies native to the United States, 43 are potentially dangerous. Of the 77 California natives, only 10 are dangerous, and all of these are rattlesnakes. Rattlesnakes are found in all of the “lower 48” states except Maine and throughout California in all habitats below 10,000 feet in elevation.

Four rattlesnake species are native to San Diego County. The **Colorado Desert Sidewinder**, also known as the “horned rattlesnake” for the sand shields above its eyes, is about 24 inches long, very common, and totally nocturnal: you can easily find them on a summer night in the Anza-Borrego Desert.

Docent General Meeting

Date: Saturday, July 9, 9 am

Location: St. Peter’s Episcopal Church, Del Mar

Speakers (via Zoom): Emily Spurgeon and Patrick Rex, Cal State Long Beach Shark Lab

Topic: Juvenile White Sharks

Emily Spurgeon is both a graduate student and a full-time field technician at the CSLB Shark Lab. The title of her talk is “Does Water Temperature Affect How Juvenile White Sharks Spend Their Time at Beaches?” Patrick Rex, another Shark Lab grad student, also works as a behavioral ecologist studying human-shark interactions. He will speak on “Juvenile White Shark–Human Encounters in Southern California.”

Refreshments: Docents with last names beginning with **D, E, F** will be responsible for providing snacks for this meeting.



(Cont. on pg. 3.)

The Torrey Pines Docent Society publishes the *Torreyana* monthly, edited by Joan Simon and Dan Hammer on alternate months, and is formatted and produced by Roger Isaacson. Submissions are due on or about the 20th day of the preceding month and may be emailed to

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your ZooNooz magazines to the
Museum Shop.**

President's Message

Summer Solstice marks the official start of summer. As the Reserve transitions into summer, the colorful spring flowers are fading, June gloom is disappearing, the heat intensifies, the sages start their dormant cycle, and the beloved Torrey pines are showing more brown needles.

There is still so much beauty in the clear blue sky, the puffy white clouds, the ever-changing surf, and the eroding cliffs. I love seeing new blooms everywhere: the bird's beaks, skunk flowers, dudleyas, bush mallows, toyons, laurel sumacs, and the long-blooming buckwheats and sand verbenas.

With the warm weather and families on vacation, the Reserve will receive a daily surge of visitors. This is a great opportunity for docents to share with visitors what makes this place special and what we love about it. Every activity that interacts with the public is an opportunity to be an ambassador for the Reserve. By introducing visitors to its unique features, helping them see what we see as special, we can recruit them to join us in preserving the Reserve. One simple way to protect the park is to follow the rules: stay on trails, don't pick the flowers, don't leave trash behind. Take the cues from the rangers: pick your battles, share the rules if you must, but let them enforce the rules.

The Reserve needs you fellow docents to show up. Be in the Lodge, at the TIK, at the trailheads, on the trails with your vest on and your smile. Greet the visitors, share a bit of what you know, what you see, and what you love about Torrey Pines. The public is visiting the Reserve for the same reasons you enjoy being here. It's very rewarding to share the joy with visitors. Isn't this why you became a docent?

Don't forget to park in the volunteers' parking area to save the parking spaces for our visitors.

See you at the Reserve.

Lynne Truong

TPDS President



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(Cont. from pg. 1.)

The **Southern Pacific Rattlesnake** (about 48 inches long) loves beaches as well as grasslands all the way up to the mountains. Its coloring varies, from darker in riparian corridors to lighter in open grasslands.



The **Red Diamond Rattlesnake** (up to 60 inches long) can be found all over San Diego County and in parts of Orange and Riverside counties and northern Baja California. Because of habitat loss, this is a protected “species of special concern.”



The **Southwestern Speckled Rattlesnake** (about 42 inches long) is known for its highly variable coloring, which allows it to blend in with its various natural habitats.



How can we tell the difference between rattlesnakes and harmless snakes? Four factors make this relatively easy: body markings and coloring, shape of the tail, shape of the head, and shape of the body.

Markings and coloring: Rattlesnakes are “ambush predators” that often lie in wait for their prey to approach. They have “cryptic” color patterns that work as natural camouflage enabling them to blend in with their surroundings.



In contrast, many of our native harmless snakes have very distinct markings and color patterns. In California, snakes having either uniform body color (no markings), stripes, bold bands or saddles, or tri-colored markings are all harmless.



Banded California kingsnake



Mountain kingsnake

Shape of tail: A rattlesnake's most recognizable feature is the rattle on the end of its tail – and only rattlesnakes have rattles. (The rattle is a modified set of scales composed of keratin, as are human fingernails.) California's native harmless snakes have slender, pointed tails.

Shape of head: Like all vipers, rattlesnakes have distinctive heads. Their venom is produced by large venom glands located in their cheeks. These glands make the head appear triangular or diamond shaped. In contrast, California harmless snakes have very narrow heads.

Body shape: Rattlesnakes have thick, heavy bodies. Harmless snakes have long, slender bodies. One easy way to recognize a rattlesnake: they always point their rattle up.

What to do when you encounter a rattlesnake. If you see the snake, don't panic. Move away calmly and

keep your distance. Don't run, just back away. The snake will not chase you. And don't move toward the snake: it will think you're about to attack it. The only thing the snake wants is for you to leave it alone. Coiling, hissing, and vibrating the tail are all elements of defensive posturing, not preludes to a strike. Rattlesnakes tend to bite in self-defense or as an involuntary reflex when they are startled.

If you hear a rattlesnake before you see it, **STOP** and *do not move* until you see it or otherwise determine its location. Then move away calmly and keep your distance.

What to do if bitten. Rattlesnake bites are rarely fatal, even without medical treatment. However, failure to seek medical treatment increases the risk of death, partial or complete loss of digits, loss of function at a joint, or permanent sensory loss.

Systemic effects of a rattlesnake bite can include bleeding from the wound; a tingling feeling (parathesia); feeling faint; low blood pressure (hypotension); nausea, stomach cramps, and vomiting; swelling of the lips, tongue, and throat; and difficulty breathing.

The *only* effective treatment for a venomous snake bite is the application of antivenom, which can be administered only by a medical professional. Get the victim to a hospital or get medical assistance to the victim as soon as possible. Over-the-counter snake bite kits or suction devices are ineffective. As Steve said, the best "snake bite kit" you can carry in the field is a working cell phone, preferably one with a GPS app.

Stay calm, call 911, and tell EMS exactly where you are. Remove all rings, watches, bracelets, belts, and anything else that could restrict blood flow to the bite area. Wrap the bitten limb with a compression bandage to restrict swelling and apply a cold pack to the forehead to reduce nausea. Do NOT apply a tourniquet, cut open the wound, drink alcohol or caffeinated beverages, take aspirin or ibuprofen, apply a cold pack to the wound, or attempt to catch or kill the snake.

Basic snake safety in the field. If you're out hiking or weeding in rattlesnake habitat, protective gear is essential. At a minimum, Steve said, you should wear long pants and closed-toed shoes (high-top boots are preferable). If you're in a high-risk area, wear snake boots, snake gaiters or chaps (available online). Carry a walking stick to prod a snake off the trail. Carry an

elastic compression bandage. And have a working cell phone.

To avoid accidental encounters with rattlesnakes, keep in mind that they are commonly found under rocks, logs, or other solid objects on the surface of the ground. Ground cover offers them a place to find prey as well as protection from predators. Objects on the ground warmed by the sun also offer these cold-blooded creatures a much-needed heat source to maintain a functional body temperature.

Facts you should know. Contrary to internet myth, big rattlesnakes are more dangerous than small ones. Baby rattlesnakes sometimes have a more-toxic venom than adults, but in the case of envenomation, it's all about volume.

During the warmer months of the year, rattlesnakes are often active at night. This is especially true in the desert, where most snake species are nocturnal.

In coastal habitats and other areas with no freezing temperatures during winter, rattlesnakes can be active on a warm day even in midwinter.

There are an average of 5,500–6,000 confirmed snake bites a year in the U.S., but only five or fewer fatalities; that's a fatality rate of less than 0.1%. Nearly 35% of all reported rattlesnake bites are dry bites, where the snake delivers no venom.

In about 80% of confirmed rattlesnake bites in the U.S., the victims are males 18-30 years of age with bites received on the hands and forearms, indicating that the victim may have tried to handle the snake. About three quarters of these cases involve alcohol use (which led Steve to joke about alcoholic rattlesnakes).

Snakes are primary controllers of rodents in our area. And unlike rodents, snakes carry no diseases that harm humans. It's OK to be afraid of snakes, but they are important members of our natural world, and they deserve our respect.

Following his terrific presentation, Steve invited anyone with further questions to email him at steve@swfieldherp.com.

For more information on snakes, visit californiaherps.com.

For more information on snake bites, visit crofab.com/SnakeBite 911.

General Meeting Minutes: June 11, 2022

The meeting started at 9:05 am

Invited Speaker

Steve Bledsoe, founder of the Southwestern Field Herping Association, gave a talk titled "The Dangerous Snakes of San Diego County." (See article on pg. 1.)

President's Report and Announcements

Lynne thanked **Rosemary Wareham** for securing the meeting room at the church for the General Meeting and she also thanked **Roger Isaacson**, our technical wizard, for all his efforts.

Gary McCook, Class of 2022, was announced as the Docent of the Month. He has logged over 180 hours at the Reserve, mostly at the TIK. He has worked the Lodge and served as a Public Walk leader. (See story on pg. 6.)

Please secure a church parking permit for future general meetings. Keep it handy and put it on your dashboard so a ticket will not be issued.

If there is a snakebite or other emergency, **Please call SURCOM (951-443-2969) first** rather than 911. The emergency procedure will also be sent out via email. Use your phone to create a location pin that will communicate your GPS coordinates to the dispatcher.

The rangers would like to see a greater docent presence (i.e., Roving Interpreters) on park trails, especially on weekends. Increased docent activity will help to deal with the visitors as well as in the event of an emergency. Be on the lookout as rangers have been catching a lot of baby rattlesnakes lately.

We need Lodge hosts on a weekly basis. **Matt Xavier** will send out a survey soon via email.

Myrna Trust gave a CEED update. There will be an evening "owl prowling" in Rancho Peñasquitos Canyon on Wednesday, July 27.

Lynne praised the refreshment team composed of **Michelle Kurtis Cole** and **Marian Edelbrock**. If you can help with coffee, let them know. Michele announced that last names that start with **D**, **E**, and **F** are responsible for snacks for the July meeting.

At next month's General Meeting on July 9, the program speaker will Zoom in, and two science fair winners will present in person.

Meeting adjourned at 10:50 am.

Docent of the Month: Gary McCook

Photo by Herb Knufken

Growing up and living in San Diego my entire life, I feel that I never really appreciated the beauty of this beautiful part of the world until later in life. I grew up with a strong interest in earth sciences, especially plants and geology. As a nerdy 13-year-old, I was a member of the La Mesa Tourmaline Gem and Mineral Society for three years and was the youngest member by at least 50 years. Having an aptitude for art and an interest in plants, I became a landscape contractor and designer for the last 45 years.



A conversation with my neighbors **Bob Glaser** and **Cindy Tozer** inspired me to become a docent. The docent training program rekindled my passion for earth sciences and opened a new chapter in my life, being around like-minded people who share a passion for nature and the Torrey Pines Reserve.

Because of all of the knowledgeable and enthusiastic park aides and docents, my eyes see the park completely differently in an amazing way. This is why my favorite parts of being a docent are the continuing education of the CEED and OAKS events and conversing with the veteran docents and park aides who have such an incredible amount of knowledge and are so truly passionate. My favorite duties of being a docent are nature walks and working the TIK. I love educating and interacting with the visitors and always try to work with **Evelyn Vance** so that we entertain them as well.

Welcome to Park Aide Eliana Nuñez

by Joan R. Simon

Eliana has lived in San Diego since middle school and graduated from Torrey Pines High School. She knows Torrey Pines well, having “spent a lot of time at our beach.” She is currently a student at San Diego Mesa College, and she is planning to transfer to a four-year university to complete her major in Education with a minor in Environmental Science.



She has four years of experience as an English tutor, helping both peers and older adults with their writing and communications skills. Both of her parents are educators, and Eliana’s long-term goal is to establish a holistic after-school program in a peaceful, outdoor environment within the confines of a large city such as San Diego. Here she intends to create a space where inner-city students can take time out from metropolitan life to develop their expressive interests and establish a connection with nature.

“Covid changed some stuff for me,” she commented, keeping her from being in college full time, “but it made room for new possibilities.” For one year, she worked at Cuyamaca Rancho State Park while living in a cabin in Julian.

She moved back to San Diego and began working at a community arts center in Ocean Beach, where she helped organize workshops, host music events, and connect local artists through art shows and displays both within the center and community-wide. She also created a compost system for the coffee shop within the center.

Eliana said that Torrey Pines “feels like home.” As we spoke behind the Lodge, she noted that “I can see where I grew up from here.” She is excited to have the opportunity to help develop a new Junior Rangers program, which she’ll be involved with this summer.

Eliana will be working every week on Wednesday, Saturday, and Sunday.

80+: A Conversation with Gabrielle Ivany

Interviewed by Kristine Schindler

Gabrielle has been a docent since 2000. More than two decades of involvement with the Torrey Pines Docent Society – how wonderful! She and I sat down together behind the Lodge on a February day. It was a beautiful time together, and I learned many things about Gabrielle that I did not know.



Q. Tell us about your childhood.

A. I was born in Germany in Köln (Cologne), grew up there, and finished high school with the last two years being focused on business. We lived through most of the bombings of World War II, and I still have bad memories. We lived among ruins after the war because the bombs destroyed 95% of the city. Also, at that time and for three years the stores were empty; even on ration cards we could not find bread or milk or flour all the time, and our money was worth almost nothing. But I was able to go to school, and my parents made sure they were there for us. Everyone was in the same boat. It is similar to the pandemic where everyone was in the same situation and going through it together.

I came to the U.S. when I was 21 years old. I wanted to be a translator – English, French, and German. I stayed with a cousin in Cleveland for a year so that I could learn to talk in English, because reading and writing was no problem. During that year I met my future husband, a former Hungarian Army officer whom I met at a dance. He was a refugee who had immigrated to the U.S. a few years before we met. I had planned to go back to Germany, but those plans changed. We married in Toledo, Ohio; about a year and a half later (1961), we decided to move to a nicer climate and that was San Diego.

We would come to Torrey Pines State Reserve to walk and to picnic. There were picnic tables and fire grills in the area next to the west parking lot. So we brought our hot dogs, and my husband being an old Boy Scout could not resist the urge to light a fire in those grills. Of course we were always careful. We would usually have the place to ourselves. We lived in the Hillcrest area and enjoyed Balboa Park,

including the International Cottages and the Zoo. My husband found friends there to speak with since his English was limited. English was his third foreign language, learned later in life. Most of our friends here in San Diego were Hungarian, and I learned to speak it too. Our daughter heard three languages from the time she was born, and she still is fluent in all three: English, Hungarian, German.

Q. What was your path to becoming a docent?

A. I went to college at SDSU and got a Bachelor's degree in Information Systems. I worked at General Dynamics and later at Computer Sciences Corporation as a programmer analyst for about 20 years. After retirement, one day I came to the Reserve with friends for a walk and saw a big banner announcing docent training. My friends then dared me to do it. The training program was so good – I loved it. The lead at that time was **Marty Bressler**.

Q. What have you enjoyed the most?

A. I have really enjoyed everyone at the Reserve and also the monthly meetings with interesting and informative speakers.

I have done Children's Program for several years. Not being a teacher to begin with, I had to learn to lead the walks, but the kids were so sweet and so nice, it was a pleasure. Experiencing a child seeing the Reserve and the ocean for the first time is a gift.

For many years and especially now I have been doing Lodge duty. I get to talk with the visitors, and I hope that it's helpful to visitors and staff.

Q. Piece of advice for a new docent?

A. You will love being a docent. There are many different areas to become involved in. It's always interesting, and you can schedule your own time.

Q. What accomplishment as a docent are you most proud of?

A. I have maintained the Lodge Hosting Book for the past 10 years – something to point to that is tangible. But I also believe that just being at the Reserve informing visitors, answering questions, and, if you are at the Lodge, selling our gift shop items, is of help and important.

Q. What makes you particularly happy these days?

A. I like to spend time with my daughter who lives close by, to go to the theater and the symphony. I like to travel, I like to garden, to cook and bake, to come to the Reserve, and to be in our book club. I am grateful for all of these things.

Roving Interpreter Training 2022

Photo and text by Cresencio Torres

On June 15, 2022, fourteen docents completed the TPDS Roving Interpreter training program: **Beverly Toth, Dinah Carl, Evelyn Vance, Gary McCook, Kathy Simmons, Linda Adelson, Robert James, Ron Styn, Tina Tong, Rosemary Smith, Loraine Bradbury, Ann Gaarder, Craig Carlisle, and Malana Tabak.**

A special thank you to Park Ranger Kyle Knox and Park Aide Louis Sands for sharing their knowledge and wisdom about the letter of park rules and the spirit of roving interpretation.

Finally, I would like to acknowledge our mentor roving interpreter docents who volunteered their time to lead small groups on spirited post-program walkabouts, answering questions and sharing their experiences: **Stu Rosenwasser, Gabriele Wienhausen, Ken King, and Frank Burham.**

Mission accomplished, and good luck to our new cadre of Roving Interpreters as they hit the trails.



June CEED event: Los Peñasquitos Lagoon

Photo and text by Molly Allison

Sixteen docents gathered on Wednesday, June 1, for a magical walk through Los Peñasquitos Lagoon. While we waited for docents to arrive, Ingo Renner entertained us with stories of recent mountain lion sightings and grunion runs. After we all assembled, we crossed the street and learned about the foredunes, sacred native lands and middens, the Los Peñasquitos watershed (one of eleven watersheds in southern California), and the importance of tidal flushing. Los Peñasquitos Lagoon supports a variety of native vegetative communities in saline, brackish, freshwater, riparian, and transitional habitats. With Ingo's keen and spontaneous observations, we were delighted by a gopher snake skin, chimney bee nests, a trapdoor spider door, coyote scat, bobcat prints, velvet ants, and numerous plants. We observed saltmarsh pickleweed, dodder, buckwheat, sea lavender, and native honeysuckle. As the heat of the day amped up, we found shade and rested under

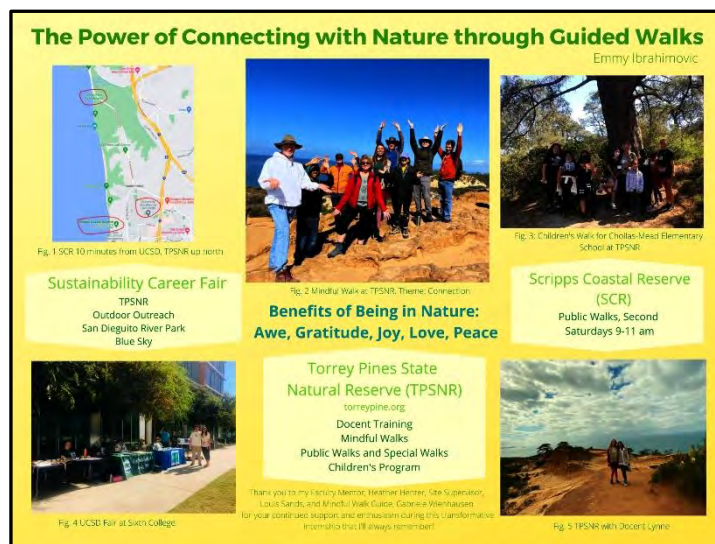
"Mother Torrey," one of the largest Torrey pine trees in the area. After over two and a half hours, we were happy to return to the Reserve with new knowledge, appreciation, and renewed love of our precious environment.



Docent-Intern Connects with Nature through Art

by Louis Sands

Congratulations to Class of 2021 docent **Emmy Ibrahimovic**, who just graduated from UCSD this June! The picture below is of Emmy's senior project poster. The TPDS training team is excited about the potential of our collaboration with UCSD's Environmental Systems Program, home of Emmy's major, and the UC Reserve System. Emmy says, "I am so grateful for my senior internship at Torrey Pines State Natural Reserve, where I became a docent and now guide hikes for visitors to inspire a greater connection with nature! Thank you to my mentors Louis Sands, Heather Henter, and **Gabriele Wienhausen** for all your support along this journey!"



Nature Discovery Series: All About Eggs

by Matt Xavier

The NDS presentation “All about Eggs” was held on May 21 at the Children’s Pavilion, led by **Kathy Dickey** and **Barbara Wallach**. Kathy, armed with examples of eggs ranging in size from a hummingbird to an ostrich, began the talk by explaining how eggs are made. A chicken, for example, can lay eggs every day up to about 300 per year for a span of about 4 years. Her goal is to lay a clutch of 12 eggs, which she will promptly sit on. After about 21 days, the fertilized eggs begin to hatch with the chicks fully formed. (Many newborn birds such as the mallard duckling are immediately ready to follow their mothers, a natural state called “precocious.”)



The longest known incubation period for an egg is the Wandering Albatross (*Diomedea exulans*), which takes 98 days to hatch. This long process requires the parents to alternate keeping on top of the egg(s); they often eat shell remnants to replenish their calcium levels.



Most songbirds lay one egg a day and then sit on the nest only after laying several. Egg colors range from blue to pink to solids to spots and splotches – the particular pattern and color may camouflage them from predators, of which there can be many such as lizards, snakes, and other birds.

Barbara continued the “eggcellent” presentation by asking the rapt audience which animals reptiles and other than birds lay eggs. Surprisingly, 99% of animal species on earth lay eggs, from insects to reptiles and amphibians to five species of mammals.



Because many eggs are eaten by other species, animals lay multiple eggs to guard against complete loss. Some species resort to defecating on top of their eggs as a way to ward off predators.

The froghopper (an insect in the order Hemiptera) lays its eggs on a plant, then secretes a protective foam known as “spittle” over them. After hatching, the nymphs (also known as spittlebugs) use breathing tubes in order to stay in the relatively safe environment of the spittle.

Nature Discovery Series: Upcoming Schedule

“The Birds of Torrey Pines,” with Marty Hales, will take place on Saturday, July 16 at 3 pm at the Children’s Pavilion.

Possibly a BIK (Beach Interpretive Kiosk) event in August. The tides make scheduling difficult in the summer.

Contact Kathy Dickey for more information.

July CEED Event: Night Owl Prowl

When: Wednesday, July 27, 7:15 pm

Where: Canyonside Park in Rancho Peñasquitos Canyon Preserve, 12350 Black Mountain Road

Duration: 2 hours (earn 1 hour of Continuing Education)

Leader: Brian Swanson, interpretive naturalist, and Friends of Los Peñasquitos Canyon Preserve board member, who has led owl walks for more than 20 years

Meet at far west side of Canyonside Park Drive, west side of baseball fields. We will be walking on mostly flat trails and roads. Bring a headlamp or flashlight as we search for Western Screech Owls and other creatures of the night.

If you are interested, RSVP Myrna Trust.



Western Screech Owl

Joann's Woodrat Colony

by Ingo Renner

When **Joann Sandlin** joined the Docent Society in 2022, little did she know that she would become enthralled by the lives of our local dusky-footed woodrats. Curious to learn more, she read a 665-page book examining the life of these elusive nocturnal mammals.



Joann naturally wanted to share her newfound interest with other docents and the public, so with assistance from docent **Frank Burham** she built a large, detailed sculpture of a woodrat colony. It has a lid that lifts off and magically reveals many specialized rooms. Joann handcrafted everything down to the smallest detail, even forming each rat with a special modeling clay. The hardest part was applying the fake fur and trimming it afterwards to make it look realistic.

Being so gracious with her talent and time (the first colony took about 100 hours), Joann crafted another woodrat colony for our visitor center. Now Lodge hosts have the opportunity to share the unique life of these creatures with visitors from around the world. Please use care when handling, and discourage the public from touching, so it may be enjoyed it for years to come.

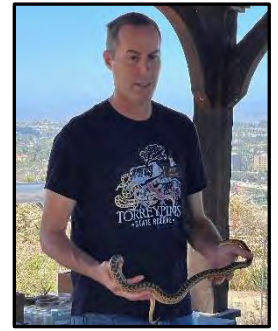
Visit Joann and Frank on Saturdays, just south of the TIK under the shade of a Torrey pine. Enjoy her educational tales and notice how her creation always piques the curiosity of passersby. We thank Joann for her creative talent and eagerness to share it with others!

NATURE DISCOVERY SERIES:

Fun with Snakes and Lizards

by Matt Xavier

On Saturday June 18, NDS hosted a popular experiential lecture led by Jeff Nordland, San Diego's premier public herpetologist. More than 100 adults and children came to the Children's Pavilion to learn about the native snakes of Torrey Pines as well as lizards such as the western fence lizard and the side-blotched lizard.



Jeff with gopher snake



CA king snake with unusual pattern



Colorful San Diego gopher snake



Albino rosy boa

Museum Shop Spotlight

by Nancy Walters

The Museum Shop team would like to clarify the procedure for Lodge hosts when a visitor wants to purchase just a very inexpensive item such as a single postcard, bookmark, pencil, or 25-cent booklet. Since we don't accept cash these days, if the visitor has only cash, they can deposit the money in the donation box and take their item. We will make the small inventory adjustment at a later time. If they would like to use a credit card, that will still be OK since we are only charged 5 cents per transaction. I hope this makes it easier for Lodge hosts as well as visitors. And thanks for hosting!

SCIENCE AND ENGINEERING FAIR

by Wayne Kornreich

This year the Greater San Diego Science and Engineering Fair was again held virtually. There were not as many students participating as in previous years, but we were still able to find some impressive science projects. The science fair judging team this year consisted of **Wayne Kornreich, Kathy Dickey, Karen Lisi, Lillian Lachicotte, Robert James, and Sally Whitlock.**

We chose five projects to recognize. Three of these received an Honorable Mention with a Certificate of Achievement, and two projects received a Certificate of Achievement with a monetary award and an invitation to present at our Docent Society meeting in July.

The students who will present at our Docent Society meeting are:

Jocelyn Zhang, 10th grade, Del Norte High School:
“Infrared Thermal Imaging and Statistical Analysis for Plant Stress Detection and Phenotyping.” Docent Society mentors: Wayne Kornreich and Karen Lisi.

Omar Abdulaziz, 6th grade, Bright Horizon Academy:
“Do Western Bluebirds Experience and Show Emotions to Each Other?” Docent Society mentor: Kathy Dickey.

The students who received an Honorable Mention are:

Ava Brocious, 8th grade, The Children’s School: “The Effect of Carbon Dioxide on Bioluminescent Dinoflagellates.”

Aimee Barrett, 11th grade, Central Union High School:
“Salvation from Oil Spills.”

Zalia Jacobs and Ariana Ramirez, 11th grade, Bonita Vista High School: “To What Extent Does Acid Rain Affect Pinto Beans?”

It is always inspiring to see budding scientists in the making and the projects that they come up with.



Torrey Pines Book Club

We will continue to meet via Zoom at our regularly scheduled time. Please notify **Ken King** if you plan to participate and if you need any extra help getting connected.

When: Tuesday, July 12, 1:00 pm

What: We decided to pick any book by Barry Lopez and compare them when we meet. Barry Lopez (1945-2020) was the author of 13 books of essays, short stories, and nonfiction. He was a recipient of the National Book Award, the Award in Literature from the American Academy of Arts and Letters, a Guggenheim Fellowship, and numerous other literary and cultural honors and awards. His highly acclaimed books include *Arctic Dreams*, *Winter Count*, and *Of Wolves and Men*. He lived in western Oregon. Google his name and pick one that appeals to you! *Arctic Dreams* and *Crossing Open Ground* are two that have been recommended.

August 9th: *The Lincoln Highway: A Novel* by Amor Towles.

Bird Migration

by Jack Friery; photo by Herb Knufken

This month, we’ll change our feathers slightly and discuss bird migration instead of an individual bird species. That’s a topic that affects nearly the entire bird population of Torrey Pines. Just as an example, in our latest monthly (June) bird tally, not a single shorebird was spotted by our diligent bird counters, and ducks were nearly all missing. Those birds have moved (mostly) north to breed. Rather, we saw birds such as orioles and grosbeaks, which would have been spotted in Mexico and Central America a short while ago. What we’re experiencing is the rhythm of bird migration, a phenomenon that has fascinated humans since ancient times.



At least 40% of the world's birds migrate in some form or another. Such "migration" can be as simple as moving up or down mountain slopes to account for seasonal weather changes. Or it could be as extravagant as the trek of the Bar-tailed Godwit, which has been recorded traveling nonstop for over 8,000 miles on its migratory journey.

Why migrate? Most often, it's to reach favorable breeding regions or to follow food sources. But that may be too simple. How do birds know it's time to set out on a migratory journey? Scientists are still largely at a loss to explain this. There is evidence that birds become "nervous" when migration time approaches. Seasonal changes may trigger the impulse to migrate. In fact, there is evidence that social cues from other birds could send our migrants on their way. An even more puzzling issue is how birds find their way. This is still being studied, but there are theories that birds are guided by the position of the stars (most songbirds migrate at night) or follow the magnetic fields of the earth. Expect more information in the future, as scientists have adopted new techniques to study bird migration. For example, migrating flocks of birds may now be tracked with radar – and you and I can follow the radar-tracked flights on the Internet. (See birdcast.info/migration-tools/live-migration-maps/.)

Here are some interesting facts about bird migration. The longest bird migration worldwide? The Arctic Tern (the cousin of the Royal Tern pictured with this article) travels about 44,000 miles each year, from the Arctic to the Antarctic and back again. Do all birds at Torrey Pines travel

north to breed, and then south when they're done? Well, in most cases they do, but we have two species that break that rule. The lovely Heermann's Gull journeys south into Mexico to breed and then returns north when breeding is over. And the Phainopepla (several were tallied in our latest TPSNR bird count) breaks the rule twice – it migrates from desert to seacoast, and back again, and it may nest in both locations in the same year.

Let's leave with a quiz. First, are birds actually dinosaurs? For years, it was accurate to state that birds were descended from dinosaurs. Today, as we learn more about dinosaurs (which were often feathered, warm-blooded, and caring parents), it may be more accurate to say that birds *are* dinosaurs. (Since there are about 10 billion birds in the world, we may be surrounded by billions of mostly small, mostly flying dinosaurs). The final question: since many birds migrate, do you think their predecessors, the dinosaurs, set the pattern for migration? Yes, they did. (See, for example, livescience.com/jurassic-dinosaurs-migrated.html.)

Sources: *Audubon* magazine, Spring 2022; Unitt, *San Diego County Bird Atlas*; BirdCast, birdcast.info/migration-tools/live-migration-maps/; birdwatchingdaily.com/news/science/five-bird-species-that-make-the-longest-migrations/; allaboutbirds.org/guide/Phainopepla/overview; birdlife.org/news/2021/12/21/its-official-birds-are-literally-dinosaurs-heres-how-we-know/

Torrey Pines Docent Society Bird Survey: June 2022

Number of species: 63
(+4 other taxa)

Mallard 12
California Quail 1
Mourning Dove 48
White-throated Swift 36
Anna's Hummingbird 28
Allen's Hummingbird 13
hummingbird sp. 5
Heermann's Gull 4
Western Gull 107
gull sp. 1
Caspian Tern 1
Royal Tern 3
Brandt's Cormorant 5
Double-crested Cormorant 5
Brown Pelican 8
Great Blue Heron 6
Great Egret 8

Snowy Egret 15
Osprey 2
White-tailed Kite 1
Red-shouldered Hawk 2
Red-tailed Hawk 4
Nuttall's Woodpecker 12
American Kestrel 1
Peregrine Falcon 4
Pacific-slope Flycatcher 2
Black Phoebe 12
Say's Phoebe 2
Ash-throated Flycatcher 11
Cassin's Kingbird 7
Hutton's Vireo 2
California Scrub-Jay 30
American Crow 16
Common Raven 29
Northern Rough-winged Swallow 7
Cliff Swallow 4
swallow sp. 6

Bushtit 62
Wrentit 70
California Gnatcatcher 2
gnatcatcher sp. 1
House Wren 4
Bewick's Wren 11
European Starling 2
California Thrasher 6
Northern Mockingbird 14
Western Bluebird 5
Phainopepla 7 *Includes recently fledged young.*
Scaly-breasted Munia 12
House Sparrow 3
House Finch 90
Lesser Goldfinch 52
American Goldfinch 3
Dark-eyed Junco 4
Savannah Sparrow 8
Song Sparrow 38
California Towhee 73

Spotted Towhee 38
Yellow-breasted Chat 10
Hooded Oriole 2
Red-winged Blackbird 20
Brown-headed Cowbird 2
Brewer's Blackbird 2
Orange-crowned Warbler 13
Common Yellowthroat 30
Black-headed Grosbeak 4
Blue Grosbeak 1

Observers: Robert Turner, Anonymous, Gary Grantham, David Walker, Nancy Richardson, Tsaiwei Olee, Donna Mancuso, Lynne Truong, Andy Rathbone, Marty Hales, Susan Bar

View this checklist online at ebird.org/checklist/S113206552



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