



FRIENDS OF CITY OF ROCKS NEWSLETTER
(Vol. 6, No. 3, Sept. 2022)
MISSION STATEMENT

The purpose of the Friends of City of Rocks State Park, Inc. (website: <http://friendsofcityofrocks.org>; e-mail address: friends@friendsofcityofrocks.org) is to help support the New Mexico State Parks in the enrichment of the park area. Specifically, the Friends aim to enhance, preserve and promote park use, to participate in nature as responsible stewards of the Earth, to create an awareness of the wonder, fragility and importance of the park, to develop and improve existing education/interpretive programs, to develop and improve public awareness of the park, and to encourage public participation and/or membership in the Friends group.

BECOME A MEMBER OF THE FRIENDS!

Interested in helping out City of Rocks State Park? Consider joining the Friends. Typical Friends activities include highway cleanup, cutting and splitting firewood for sale to park campers, operation of a gift shop in the park Visitor Center, fund-raising, etc. To join, a) complete and send in the membership application form at the end of this newsletter, OR b) download, complete and submit a membership application from the Friends website (see above). **NOTE: If you are already a member of the Friends, it is time to renew your membership! You can do so using the same form mentioned above.**

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SCHEDULE OF UPCOMING EVENTS

Saturday, Oct. 1 2022. 8 AM – 10 AM.
Bird Hike at City of Rocks. Co-Leaders:
Karen Beckenbach and William (“Bill”)
Norris. Meet at Park Visitor’s Center.



Cactus Wren.

https://en.wikipedia.org/wiki/Cactus_wren#/media/File:Campylorhynchus_brunneicapillus_-_Tucson,_Arizona,_USA-8.jpg

Saturday, Oct. 15. 9-11 AM. Plant Hike.
Co-Leaders: Ed Leuck, Russ Kleinman,
and William (“Bill”) Norris. Meet at
Cienega Trail Parking Lot.



Blackfoot Daisy (*Melampodium leucanthum*).
 Photo by Max Licher.

Saturday, Oct. 15. Star Party. Starts at
6:00 PM.



Saturday, Oct. 29 2022. 1:30 PM – 3:00
PM. Geology Hike. Come to learn how
City of Rocks was formed. Meet at Park
Visitor’s Center. Leaders: Members of
the Rolling Stones Gem and Mineral
Society.



https://en.wikipedia.org/wiki/City_of_Rocks_State_Park#/media/File:CityofrocksApp0035.jpg

Saturday, Nov. 19 2022. Star Party.
Program starts at 5:30 PM.

Saturday, Dec. 17 2022. Star Party.
Program starts at 5:20 PM.

MEET FRIENDS SECRETARY SUSAN MITTELSTADT



Friends of City of Rocks Secretary: Susan Mittelstadt

Please welcome Friends of City of Rocks newly elected Secretary: Susan Mittelstadt. Susan is a former environmental engineer and now semi-retired carpenter's assistant. She landed in Silver City a year ago after 12 years of wandering the west while working and playing music. Susan plans to employ her considerable web skills to increase FOCOR presence on-line in a variety of social media platforms.

Welcome to the team Susan!

Bird Hike (Saturday, May 7 2022): Field Trip Report.

Text and Photos by Susan Mittelstadt

We were in great hands and eyes as Karen Beckenbach and Bill Norris led a walk through the campground to see which avian visitors might be at The City of Rocks. Crowds thinned for the last bird walk of the season but it gave us the opportunity to talk more about birds and get to know each other. Firstly, Bill got us all introduced and broke the ice. There were 11 of us, including the guides. The morning was bright and already had heat coming on. Our first stop was the Visitor Center feeders. The feeders were nearly empty, perhaps we'd arrived before fill up time, but we did see a number of the usuals waiting for a refill. Canyon Towhee, Black-throated Sparrow, Gambel's Quail, and House Finches loitered.



Canyon Towhee on alert.

We headed clockwise towards the botanical garden as a raven flew overhead. Karen suspected Common based on the shape of its tail. Last walk

we spotted numerous Rock Wrens (ROWR) in this area. The ROWR appeared to be feeding recent fledglings. This trip was quiet. Maybe ROWR were in seclusion on second broods or perhaps they had moved on? Birding allows us to wonder and never know so many things. A Brown-headed Cowbird flew by as we rounded the corner towards the Great Horned Owls nest. Cowbirds are famous or infamous, depending on your geographic location and philosophical leanings, for their reproductive strategy. They lay their eggs in other birds' nests and let other species do the hard work of raising their young. Karen mentioned that here it is quite common for cowbirds to lay in Black-headed Grosbeak nests.

The Friends of City of Rocks and SWNM Audubon have led three birding trips since February and on each trip we were thrilled to find Great Horned Owls (GHO). Back in February we spotted the birds hanging out side by side in an oak. A lucky few saw the pair get down to business. In April we saw the female GHO on the nest and the male was roosting in a nearby tree. This trip we found the female on the nest and their appeared to be a fluffy head next to her. Was it a chick? We thought it was but careful examination of photos after the trip revealed the 'fuzzy head' to be a mass of fibers, perhaps fishing line. GHOs take over the nests of other birds. This particular location is a large well-built stick nest in a deep alcove. It resembles

the occupied raven's (I can't identify species of raven) nest we found nearby. The previous owners likely brought in the clump of fiber. Around the corner is the oak where the male GHO has been previously seen. On this day he was elsewhere but he'd left behind evidence of his habit. The rock under his favorite limb was streaked with white droppings. We took advantage of his absence and approached the roost to look for pellets. Owls expel pellets of indigestible bits of their meals.



We collected a few pellets and gathered around to watch Karen as she carefully broke up the material to reveal tiny jawbones, humeri, and skull parts amongst the clod of compacted fur. Our best guess was baby rabbits were making up most of the food for this owl.



own. Check out the owls, spy on the water seep, hang out at the feeders. Migration is once again here and you can come out October 1 and enjoy another guided trip.

KISSING BUGS

Text and Photos by Emily Pollom

In southern New Mexico there is no shortage of plants and creatures to watch out for. Stings and bites, pokes and jabs are part of the ecosystem we call home. That piercing agave leave sticking into the trail or that wayward scorpion exploring a hiking boot left on a porch have shaped the way many of us move through this landscape. But for my household, no local troublemaker has had a greater effect on my summer routine than a silent, stealthy night visitor known as the kissing bug or conenose.

Kissing bugs are members of the family Reduviidae. This family has thousands of species, many of which feed on other insects. Kissing bugs are different though. In the US, kissing bugs have the genus *Triatoma* and are blood-drinkers. They are primarily nocturnal and will feed on mammals, birds, reptiles, and amphibians. They can be found throughout the southern half of the US but are particularly prevalent in the Southwest. In New Mexico they can be found in a wide range of habitats from Pinon-juniper grassland to mesquite forests and are active from May-September.

Speaking of rabbits, quite a few were seen hopping about. This bit of scientific investigation was a highlight of our excursion.

While it seemed very quiet our tick list was growing steadily. White-crowned sparrows, Curve-billed Thrasher, Black-chinned Hummingbird, Swainson's Hawk, Mourning Dove...Nineteen species were found in an hour and a half. There's a wet spot at the water spigot near the bathroom. Birding in this area and the gully just beyond it can be very rewarding. This trip a Virginia's Warbler was seen taking cover in the vegetation nearby. Wilson's and Yellow-rumped Warblers were also spotted in the oaks.

Many thanks to our personable, knowledgeable, and generous guides for sharing their expertise this season. Organized bird trips are done until next fall but here's plenty of time to get down to The City of Rocks and bird on your

Kissing bugs often approach an animal after it is asleep, inserting their very thin, delicate proboscis and drinking for up to 30 minutes. For most people, bites are generally not felt at all until the following day when an itchy red welt may appear. However, the experience is much more jarring for some folks.



At about an inch long, *Triatoma rubida* showcases the standard kissing bugs traits: a cone-shaped face, large eyes, legs without flares or spines, and a flared edge around the abdomen. This is a species common in southern New Mexico's desert landscapes.

The saliva of the kissing bug has a high rate of allergic response in humans, as is the case in my household. An Arizona study found that around 10% of bite victims had a severe response, with some needing to go to the hospital or use an EpiPen. Symptoms can include itching or burning all over the body as well as shortness of breath. Benedryl or a comparable antihistamine is a great thing to have on the night stand when in kissing bug territory.

An additional concern about kissing bugs is that they are the vector for Chagas Disease. This disease is caused by a protozoan parasite that lives within the digestive tract of infected kissing bugs. Humans and other mammals can contract Chagas disease. When kissing bugs feed, they may defecate near the bite wound. If this is scratched into the bite or rubbed into the eyes or mouth, infection can occur. Chagas disease has long been a concern in Latin America but as detection technology improved, researchers have discovered that bugs in the US are carrying the parasite at higher rates than previously thought. On rare occasion, there are cases of Chagas confirmed to have been contracted in the US. You can find more information about Chagas disease on the Center for Disease Control website.

Living with kissing bugs is something that New Mexicans outside urban centers may have to do. Studies have shown that people in close proximity to kissing bug habitat may have them enter their homes, regardless of home type. Closing off access points is key. Make sure windows and doors are all sealed, screens are in good condition, and keep porch lights off when not in use. Having pets sleep inside is another good measure as kissing bugs are drawn to kennels and other accessible animal enclosures. For those of us unlucky enough to live with the allergy to their bite, a mosquito net during the summer months could be a good idea.

To learn more about kissing bugs and Chagas disease in New Mexico, I am working with researchers at New Mexico State University to collect and analyze kissing bugs. If you are interested in contributing kissing bugs to the project or have questions about them, please reach out to me at Emily.pollom@gmail.com.



Triatoma protracta is common in mountainous pinon-oak-juniper habitat in southern New Mexico.

BATS: BIOACOUSTICS AND THE RED QUEEN

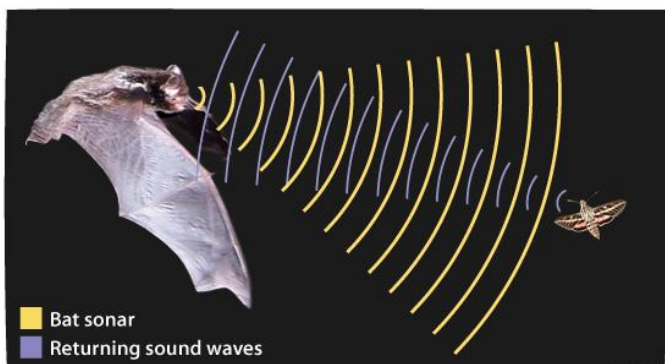
By Timothy H. Geddes

Bats are mysterious creatures of the night long associated with death and the underworld. Bats are the second largest order of mammals after rodents. There are over 1,000 species of bats in the world and there are 45 species in the U.S.

Southwestern New Mexico has 24 species ranging from the mountains to the desert. Bats are in the Order Chiroptera which means hand-wing. There are the megachiroptera like the fruit-eating flying foxes. They do not possess sonar and there are none in North America. The familiar bats in New Mexico are all microchiroptera. Most feed on insects captured in flight but there are also nectar-feeding flower bats. Bats can maintain speeds of 40 mph and heights up to 10,000 feet. Bats can eat up to 3,000 insects in one night. Bats have a 50 million year fossil history but one in need of conservation. One problem is that the ultrasonic frequencies generated by wind turbines sound a lot like bat calls and the bats are confused by this. If you are interested in bat houses and conservation check out batcom.org. Bats do get rabies but as much as dogs or raccoons.

Sonar (Sound Navigation Ranging) was developed during WWII for submarine warfare. Bats and whales evolved echolocation independently but the principle is the same. A signal is transmitted and received back at the source. Bats use high frequency calls of 20,000 to 230,000 Hertz (20-230 kHz). Humans can't hear above 20 KH so the sounds are inaudible to us which is just as well as they are emitted at 100 decibels about as loud as a jet aircraft. Bats patrolling the night sky emit sonic clicks at 10-20 per second. When prey is detected the pulse rate goes

up to 300 clicks per second in what is known as a feeding buzz. The target range, size, and texture can be analyzed by its echo. The rate of approach can be known by using the Doppler effect. Named after Austrian physicist Christian Johann Doppler in 1842, the Doppler effect states that the frequency of sound increases when an object is moving towards you and lower in pitch (frequency) when moving away. Sound travels at 344 meters per second and from call to echo return is measured in milliseconds. All this information is processed by the bats 10 mg brain. Bats capture insects by mouth or by catching it in a wing or tail pouch.



Bat Sonar.

<https://askabiologist.asu.edu/echolocation>

The tiny Western pipistrelle looks more like a butterfly than a bat as it flits around in the early evening sky. These bats are found in desert scrub and woodlands. The female gives birth to twins. The pallid bat stalks scorpions and other prey on the ground. By day it roosts in hollows in rocks and trees. The Mexican or Brazilian free-tailed bats are

famous for their large flights at Carlsbad Caverns. The young, born in June or July, form huge nursery groups. The lesser long-nosed bat feeds on nectar and pollen of agave and other succulents and are valuable pollinators. The young are born in May or June. It migrates to Mexico in the fall. The common big brown bat is found in a variety of habitats, often around human dwellings. They eat beetles and other insects and can consume their body weight in prey each night. These bats hibernate in winter.



Western Pipistrelle.

https://en.wikipedia.org/wiki/Canyon_bat#/media/File:Western_pipistrelle.jpg

There is a theory in biology called Batesian mimicry named after Henry Bates who spent 1848-1859 collecting insects in the Amazon basin. He observed that certain species of butterflies were never preyed upon by birds. That species he called the model. There were other species of butterflies in the same habitat that closely resembled the model species

and the birds never attacked them either. Assuming that the one species was distasteful to birds, the look-alike species gained protection from predation because of its resemblance to the distasteful species. In his 1863 “The Naturalist on the River Amazons” Bates ponders “may it not be inferred that the mimic is subject to a predation by insectivorous animals from which the model is free?”

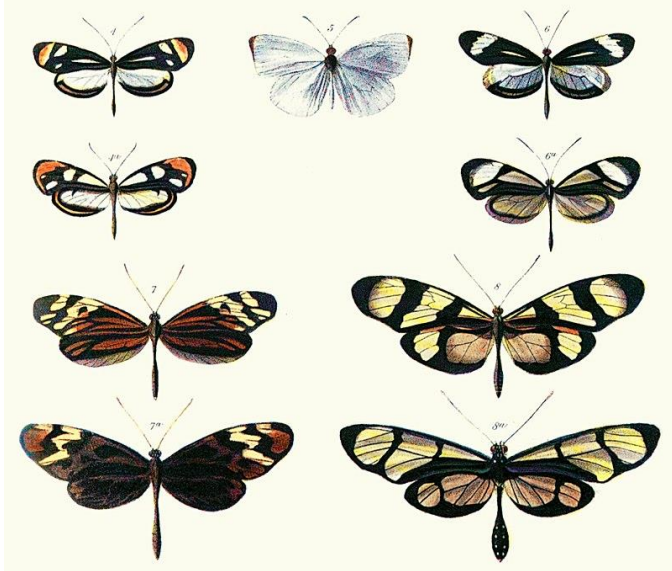


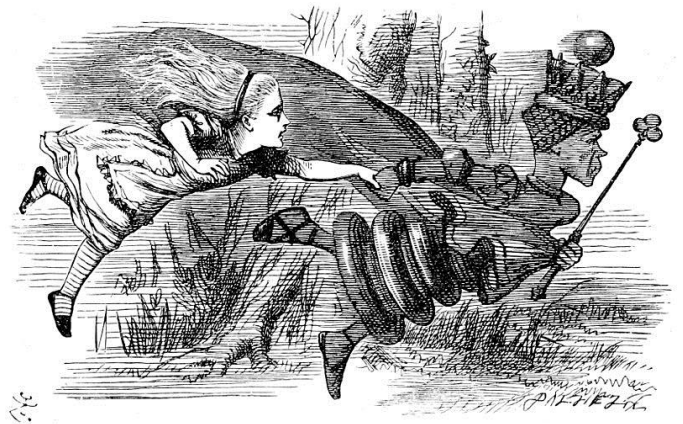
Plate from Bates 1861, illustrating Batesian mimicry between *Dismorphia* species (top row and third row) and various *Ithomiini* (*Nymphalidae*) (second and bottom rows). A non-Batesian species, *Pseudopieris nehemia*, is in the centre.

https://en.wikipedia.org/wiki/Batesian_mimicry#/media/File:Batesplate_ArM.jpg

The larvae of some tiger moths feed on the poisonous dogbane plant and the adults are toxic also. These tiger moths have ears and can hear bat sonar but the moths can also emit ultrasonic clicks of their own. So enters the Red Queen in this

3 billion year arms race. As predators get better at capturing prey, the prey animals get better at escaping predators. In 1973 Leigh Van Valen proposed the Red Queen hypothesis that says a species needs to evolve constantly to stay even with its enemies and competitors.

The Red Queen is a character in Lewis Carroll’s “Through the Looking Glass.” After taking Alice on a long run that actually goes nowhere, the Queen tells Alice “Now, here you see it takes all the running you can do to keep in the same place.”



"Now, here, you see, it takes all the running you can do, to keep in the same place." — Lewis Carroll

https://en.wikipedia.org/wiki/Red_Queen_hypothesis#/media/File:Alice_queen2.jpg

It is likely that tiger moths evolved sonic clicks to advertise their toxic properties to bats. Some tiger moths may use clicks to mimic the poisonous ones in a form of acoustic mimicry (Corcoran et al. 2011). The tiger moth “*Bertholdea trigone*” can jam bat sonar by emitting its own clicks

when the bat is closing in for the kill. The moth signal causes the bat to lose the moth's exact position and it breaks off the attack.



Tiger moths scare bats with ultrasonic clicks.
<https://www.wired.com/2010/08/moth-jamming/>

Noctuid moths are parasitized by ear mites. The mites break the tympanic membrane rendering the ear deaf. The mites are always found in one ear only. The moth can still hear bat sonar and take evasive action. If the mites infested both ears the moth would be totally dead and easy prey to bats. Of course, if the host is eaten the mites are also destroyed. How do the mites “know” to infest only one ear? Natural selection seems elegant at times.



Noctuid moths subject to parasitism by mites.

[https://www.semanticscholar.org/paper/Ectoparasitic-mites-\(Acari\)-on-Andino-Patagonian-Casanueva-Angulo/ed8c2a351f1e1cb89450cf6ab20d1e3026ec1a2f/figure/1](https://www.semanticscholar.org/paper/Ectoparasitic-mites-(Acari)-on-Andino-Patagonian-Casanueva-Angulo/ed8c2a351f1e1cb89450cf6ab20d1e3026ec1a2f/figure/1)



Dicrocheles phalaenodectes, the moth ear mite.

<https://u.osu.edu/biomuseum/2016/08/08/mites-and-moths/>

SWAINSON'S HAWK

by Tim Geddes



Swainson's Hawk on the nest in Honey Mesquite Tree along Hwy 61 near City of Rocks State Park. Photograph by Tim Geddes (June 24 2022).

Scientific Name: "Buteo swainsoni"
Named after William Swainson by Charles Bonaparte in the 19th century. Swainson was a friend of John James Audubon.

Size: Length 19 to 22 inches Wing spread 4 to 4 ¾ feet.

Food: Mainly reptiles, birds, and mammals but also insects and even bats.

Nesting: A platform nest in yucca, mesquite, cottonwood and other trees. Nests in mesquite 84% of the time and builds a new nest 50% of the time. Incubation is for 28 to 35 days and

fledging in 28 to 30 days. There is one brood a year of two to four young.

Migration: The hawk migrates to Central or South America by day using thermals to cover 11,000 to 15,000 miles annually.

Remarks: The hawk is a common raptor in southwestern New Mexico and often see at the City of Rocks. It occurs in three color phases- the light, intermediate, and dark morphs.

Membership Application

Friends of City of Rocks State Park, Inc. (FCR)

FCR is a non-profit 501(c) organization dedicated to enhance, preserve and promote park use. Your contribution and membership will give you the satisfaction of helping preserve and protect one of the most beautiful places on the planet.

_____ New _____ Renewal

Name(s) _____

Address _____

City, State, Zip _____

Phone _____ E-Mail _____

Yes, I want to support FCR. Enclosed are my annual membership dues. Dues and donations are tax deductible.

***ACTIVE MEMBER: (Voting)**

SPONSOR (Non-Voting)

_____ \$15 Individual

_____ \$25 Friend

_____ \$20 Family

_____ \$50 Good Friend

_____ \$10 Senior (single or couple)

_____ \$75 Very Good Friend

_____ \$500 Lifetime

_____ \$100 Best Friend

_____ \$500 Special Best Friend

In addition to my dues, I enclose \$ _____ as a donation (optional)

*Active dues paying members are those individuals who are entitled to vote at annual meetings and MUST participate in at least one of the following. Please check at least one of the following:

_____ Hospitality _____ Newsletter _____ Programs _____ Membership _____ Publicity
 _____ Garden Care _____ Fund-Raising _____ Events _____ Scrapbook _____ Officer

Active Members receive free day admittance to City of Rocks State park

Thank you for your support and interest. Together we can create an awareness of the wonder, fragility, and importance of City of Rocks State Park.

Please send your check to: Friends of City of Rocks State Park, Inc., PO Box 74, Hurley, NM, 88043

Upon receipt of our completed membership application, you will receive a welcome letter, receipt, and membership card. For further information or questions, please call 1-(228) 363-1403.

Official use only

Date Received: _____ Ck#: _____ Cash: _____ Membership Card: _____