



Friends of Thatcher State Park

Emma T Thacher Nature Center • 87 Nature Center Way • Voorheesville, NY 12186
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Going Batty



Whenever I'm asked what my favorite wild animal is, I tell people that it's bats. You can imagine the cross-eyed looks I get from many people in response. My answer to this is to dispel myths (bats do not fly into your hair) and to explain why I think bats are the coolest mammals out there.

Before I try to convert any doubters among you, here are a few fun facts. *Bats are the only flying mammal (flying squirrels glide) which is important since flight only evolved three times in vertebrates: pterosaurs, birds and bats. *Bats are not blind! They actually see very well but echolocation is a far more effective way of finding food and navigating at night. *The world's largest bat is the Golden-Crowned Flying Fox which weighs about 2.5 pounds and has a wingspan over 5 feet. *The world's smallest bat is the Bumblebee Bat which weighs 2 grams and has a 5 inch wingspan. Both species are found in Asia. *Twenty percent of all mammal species are bats. Closer to home, New York has nine native bat species - three are migratory (tree bats) and six hibernate here (cave bats).

In Chinese culture, bats are believed to bring good luck and are associated with the Five Blessings of health, wealth, longevity, virtue and serenity. Three of these are attainable in the 21st century via bats.

Let's consider wealth. In the tropics, bats are pollinators of over 300 plant species including bananas, avocados and agave (pay attention tequila drinkers). These three crops alone account for over \$10 billion

USDollars (USD) in their local economies. Bats also eat the fruits and disperse seeds in their guano.

In North America, most bats are insectivorous. Just think of the amount of insects (including mosquitoes) that bats consume in a growing season. A small colony (a few dozen) of Big Brown Bats will eat over 2.8 million pounds of crop damaging insects in one year! It's been estimated that bats save American farmers about \$3.7 billion USD per year in pesticide costs and farmers around the globe save about \$22 billion USD per year thanks to bats.

Bats have relevance to human health as they have amazing immune systems. Viruses that regularly kill humans (rabies, ebola and nipah) don't have much of an effect on the bats that carry them. How? It has to do with the bats' immune responses. When these viruses infect humans, our immune systems go into overdrive, initiating an exaggerated inflammatory response so severe that it damages our own tissues and organs and often kills us. A bat's immune response relies on its high metabolic rate. When a bat takes flight, its metabolic rate increases dramatically and its body temperature increases 4 - 7 degrees Fahrenheit. Basically, every time a bat flies, it runs a fever. This rise in temperature causes waste molecules to damage and break off fragments of DNA. When this occurs in humans, our immune system attacks these fragments as though they were foreign invaders (part of the exaggerated inflammatory response). Bats, however, have a dampened immune response toward these fragments. Some of the genes directing the immune system to attack the rogue DNA fragments are absent in bats. The result is a controlled low-level immune response that allows a bat to coexist

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with the viruses in its system (this is why you should never handle a bat). By studying the genomes of some bat species, we may get a better understanding of how and why our own immune system reacts to some viruses the way it does and, hopefully, devise new treatments in the future.

The downside is that when a bat's temperature decreases during hibernation, it becomes vulnerable to pathogens. We all know about the devastating effects of white-nose syndrome on bat populations in the U.S. This cold-tolerant fungus has killed millions of bats across the country since it was first discovered here 20 years ago. This is why Hailes Cave is closed to the public. It is a well-used bat hibernaculum and no one wants to run the risk of accidentally infecting the bats in there.

"Live long and prosper," was Mr. Spock's way of saying goodbye (nerd alert!). Bats have taken that to heart. Many bat species are very long-lived for their size. Could the secret to a longer life be found within the bat genome? The usual rule with mammals is that size correlates with longevity. If you're small (like mice), your lifespan is short. Most bats are small. There are 19

species of mammals that live longer than expected for their size and 18 of them are bats (number 19 is the naked mole rat). Our local Little Brown Bat lives up to 30 years and the European Brandt's Bat is the longevity champion at 42 years! As we age, the ends of our chromosomes get shorter. Many bat species have genes that repair the ends of their chromosomes thus slowing the aging process. The question is do humans have any of those genes and, if so, can they be activated?

Interested in learning more about bats? Pick up a copy of The Genius Bat by Yossi Yovel or An Immense World by Ed Yong. Not a bookworm? OK. Check out Bat Conservation International at batcon.org. It's a wealth of information. You can also check out Emma Teeling's great TED talk "The Secret of the Bat Genome" or Arinjay Banerjee's TED talk "Why Bats Don't Get Sick." Bats get a bad rap that they don't deserve so I hope I've given you reasons to appreciate these wonderful animals. Look to the sky at dusk this summer and watch them fly! They're doing great things!

- by John Kilroy



Photo of a Big Brown Bat on previous page by Michael Durham (<https://www.batcon.org/bats-in-your-backyard/>).
Photos of a full bat house, and bats caught flying out at dusk on this page by Christine Gervasi.

Join board meetings virtually!

The Friends Board meets every second Wednesday of every second month. Anybody is welcome at our board meetings and we'd love to have you there! Can't join us in person? Join our Microsoft Teams meetings virtually using this link/QR code! [Friends Group Bi-Monthly Board Meeting | Meeting-Join | Microsoft Teams](#).

Come in person for our July meeting, join us for food, and get to know the board members! We'd love to see you there!



The Friends of Thacher Park Meeting Dates for 2026

Wednesday, July 8 at 6:30 pm, September 9 and November 11, at 7:00 pm.

At Thacher Visitor Center. Come join us!

Tongues That Smell The World



There are animals living in Thatcher that you almost never see. Birds, chipmunks, and squirrels are likely to be out and about while you're hiking. But only occasionally will you see a snake.

The first glimpse of a snake on the trail is likely to be accompanied by an involuntary shiver or catch of the breath. It's a primal response, even if you know that the five kinds of snakes usually seen at Thatcher are nonpoisonous.

It's the forked tongue that often engenders that sense of fear. It has been associated with malevolence in stories throughout human history. Knowing its function can take the fear out of a snake's forked tongue. People smell with their noses, snakes don't. They smell with their tongues. The fast flicking tongue functions to find prey, to be alert for predators, and to find a mate.

The tip of the tongue is used to sample molecules of interest to the snake. How it does so is fascinating. Scientists using high-speed cameras* have found that the snakes' tongue appears to be hinged; it goes rapidly up and down to sample above and below itself. Above the hinge, the two forks carve out wide circular arcs going in opposite directions about 10 to 20 times a second.

The garter snake on top of this page (and its very fast tongue) was caught on camera by Christine Gervasi.

Films made of a snake in clouds of cornstarch show that these tips create two donut-shaped vortices of air that concentrate the odor molecules onto the tongue. The snake then pulls its tongue back into its mouth and brushes it against the roof of the mouth onto an organ with two pits in it. The odor molecules are then carried from here directly along sensory pathways into the brain. With this system, a snake can follow the path of a fleeing mouse or the pheromones of a voluptuous female. If it gets off the path it will veer to the right or left until the tongue is back in the center of the airborne "donut". The rapidly flicking tongue creates a 3D scent image of the world around it. This sense is powerful. Prey can be detected as many as several meters away.

Garter snakes are the most commonly seen at Thatcher. Ring-necked snakes, Milk snakes, Dekay brown snakes, and some sort of a water snake have also been reported by staff and visitors. If you are lucky enough to see a snake while out exploring at Thatcher, stand very still and watch it. Marvel at a tongue that can smell.

- by Sigrin T. Newell

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*To see this effect, search the web on the terms "snake tongue video". Click on the film called "The twisted truth about snakes' tongues."

** Much of this information came from a book that I recommend:
An Immense World by Ed Yong.

You are Invited...!
Friends Potluck Mixer July 8, 7 pm

Please join the Friends of Thatcher Park on July 8 at 7 pm at the **Visitor Center** (brief business meeting at 6:30 pm) for a potluck mixer. We appreciate all you do to support the Park and hope you can join us to celebrate!

Check for updates at www.friendsofthacherpark.org

Officers of the Friends Board of Trustees

President: Laure-Jeanne Davignon
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As always, call (518) 872-0800 or (518) 872-1237 to verify activity times and dates.

Please feel free to call board members with questions or suggestions.

Other Trustees

Bert Schou	(518) 221-8693	John Kilroy	(518) 872-1501
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Many thanks to John Kilroy, Sigrin Newell, Bert Schou, and Becky Schneider for their contributions to this newsletter.

— Christine Gervasi (Editor)

Friends of Thacher Park
c/o Emma Treadwell Thacher Nature Center
87 Nature Center Way
Voorheesville, New York 12186-2601



https://etc.usf.edu/clipart/72900/72932/72932_longear_bat.htm

Next:

Wednesday, July 8, 2026

Board Meeting

6:30 pm at Thacher Visitor Center,
followed by a Potluck Mixer at 7:00 pm! Join us!

Join us and learn about Haudenosaunee history and culture!

Friday, July 3

5:30-6:30 pm (Visitor Center), and 7:30-8:30 pm (Thompson's Lake Campground/Beach).



HAUDENOSAUNEE INFLUENCE ON AMERICAN DEMOCRACY

Friday, July 3rd from 5:30-6:30pm

Learn about the Peacemaker, the story of how the Five Nations joined together, and how the Great Law of Peace guides their traditional form of government in this informative slideshow. Hear about the Founding Fathers, American relationships with the Haudenosaunee, how Native ideas influenced the Constitution and other foundational principles of democracy.

No registration required. Meet at the Visitor Center.



New York State
Parks, Recreation and
Historic Preservation

830 Thacher Park Road
Voorheesville, NY, 12059
518-871-0800



STORIES FROM ACROSS TURTLE ISLAND

Friday, July 3rd from 7:30-8:30pm

Bring a chair or a blanket and gather on the beach at Thompson's Lake Campground to enjoy s'mores and storytelling by Perry Ground. These traditional Haudenosaunee legends have been told for hundreds of years, and continue to be an important part of Haudenosaunee culture. Audiences, young and old, will find this presentation captivating, highly entertaining yet very educational.

*No swimming after 6pm. \$7.00 parking fee per vehicle.
No registration required.

68 Thompsons Lake Rd
East Berne, NY, 12059
518-871-0800



New York State
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As always, you can find a color version of the newsletter at www.friendsofthacherpark.org