

ESSEX COUNTY
TURTLE BACK



Zoological Society
of New Jersey, Inc.
AT ESSEX COUNTY TURTLE BACK ZOO

Turtle TALK

Winter 2020

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Photo of the Season!
María José Reygadas

To be considered for Visitor Photo of the Season, please send photos to info@zoologicalsocietyofnj.org

UPCOMING EVENTS



Wonders of the Wild

Join TBZ's Educators and the Sri Lanka Wildlife Conservation Society, a global conservation organization, as we become the best environmental stewards we can be! Includes zoo tours, hikes in the South Mountain Reservation, and more! Learn more: <https://bit.ly/33pScPX>.

Nature Adventurers

Join us for Nature Adventurers as we explore local habitats in the South Mountain Reservation and beyond. Don't forget your sneakers! Recommended for ages 6+; <https://bit.ly/3jcCplZ>.



Our oceans are something to be proud of! They're teeming with amazing wildlife; from California Sea Lions to an amazing species who's been unchanged for millions of years: the horseshoe crab. Despite their name, horseshoe crabs are not a close relative to crustaceans. New research by University of Wisconsin evolutionary biologists Jesús Ballesteros and Prashant Sharma has uncovered that horseshoe crabs are indeed in the arachnid family (which includes spiders) instead of a close relative, as previously thought. Four species of horseshoe crabs exist across the world, but many of us are most familiar with the Atlantic horseshoe crab (*Limulus polyphemus*), who is native to coastal marine environments along the east coast of the U.S. and Mexico. The other three species are found near China, Russia, and Indonesia.

Horseshoe crab blood is extraordinary. Not only does it contain copper, but it also coagulates in the presence of bacterial toxins. An extract of horseshoe crab blood, called LAL (limulus amoebocyte lysate), has been used in medicine since the 70s because it can detect dangerous bacterial contamination of drugs, surgical tools, and implants. If you've ever had surgery or gotten a vaccine, you have a horseshoe crab to thank! LAL has been a staple

On-grounds/Virtual Programs

Interested in a virtual animal presentation or zoo tour? Turtle Back Zoo is hosting Distance Learning programs available for all ages with topics tailored to your group. In-person programs may be available, email our Education Curator, Marguerite Hunt, at mhunt@parks.essexcountynj.org for more information.

Virtual Zoo Team Go

Join us in Zoo Team Go's virtual clean up! For every ten pounds of trash collected, you will join the Guardians of Wildlife Animal Adoption Program! For more information visit <https://zoologicalsocietyofnj.org/zooteamgo/virtual>.

CONSERVATION EDUCATION

by Educator Katie Fenyar

of hospital sterilization procedures and medical research since 1970; if you have ever had a hospital visit or gotten a vaccine, you have a horseshoe crab to thank. According to Conserve Wildlife Foundation of New Jersey, 10 - 30% of horseshoe crabs don't survive the bleeding process, which adds on to existing population decline due to overfishing and pollution. The loss of horseshoe crabs has far reaching impacts: not only would it harm humanity, but it would also threaten over 20 species of reptiles, fish, and shorebirds that rely on horseshoe crab eggs

The specific protein responsible for the clotting activity of LAL is called Factor C. A young molecular biologist figured out how to create a synthetic version of Factor C (called rFC) so it could be mass produced, just like how insulin is created in labs today. It's taken many years, but a synthesized Factor C assay was approved in 2018 by the FDA as the bacterial toxin test for a new migraine treatment, though the assay isn't yet universally used. As researchers race for a COVID-19 vaccine, a switch to the recombinant Factor C Assay could help save thousands of horseshoe crabs. To learn more about horseshoe crabs and vaccines: <https://bit.ly/31fDsCc>; [United States Pharmacopeia](https://www.uspharmopeia.com/).

ZOO NEWS



Wonders of the Wild

Students of our new zoo program, led by Educator Hampton, took a walk on the wild side as they explored plants and animals from New Jersey and around the globe. We would like to thank Ravi Corea, president and founder of the Sri Lanka Wildlife Conservation Society, for sharing his culture and experience fostering community-led conservation for Sri Lanka's diverse wildlife with us.

Mini-camps: Critters in the Night Sky and Mysteries in the Zoo

September and October mini-camps rocked! Mini-campers met animal ambassadors, toured the zoo, learned all about animal constellations and the night sky, and put on their detective hats to solve a mystery in the zoo. Learning to use a compass was a challenge to overcome for our young detectives, but they aced their scavenger hunt with flying colors!

FNC - Pond Party and Autumn Artists

Our Nature Adventurers got out to play in the South Mountain Reservation. Guided by Nature Play Leaders Katie and Eva, we discovered a pickerel frog at Hemlock Falls and created our very own leaf rubbings at Turtle Back Rock. We even found a Marbled Orb Weaver spider hanging on its web in the woods!



Early Childhood

Early childhood educators Shay and Gill took on the challenge of running in-person and virtual classes! It was a WILD success as explorers, tots, and hatchlings tuned in to learn about animal coverings, whether in the zoo or on zoom.



Spooky Storytime

Spooky Storytime guests got in the Halloween spirit with Ernie the Burrowing Owl and Miss Shay! After our spooky story, everyone had fun checking out our biofacts: including some spooky skulls

Otters update

The otters are adjusting to life behind the scenes at Sea Lion Sound while their exhibit is upgraded. Their new exhibit, arriving in 2021, will increase guest interaction with the otters by creating a more extensive pool with a larger underwater viewing area.. The trainers are enjoying their extra time with the otters, using this time to strengthen their relationships, train some amazing behaviors, and of course take as many cute pictures as they can!

Sea lions (Zeus update)

Zeus has become one of the boys here at Sea Lion Sound! He has built strong relationships not only with his trainers, but with JR and Dyson our other two sea lions. We have loved getting to know Zeus and all his quirks! He seems to really enjoy learning new things, playing with balls and other enrichment, and he likes to rest next to JR at the end of the day when the boys go to bed!

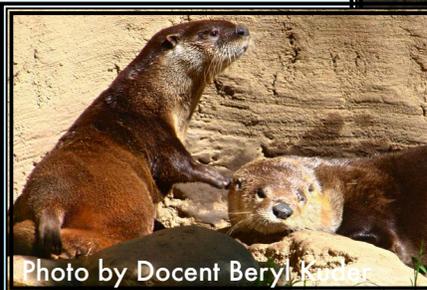


Photo by Docent Beryl Kuder

Conservation Partner Spotlight



For this month's Turtle Talk, we interviewed Ravi Corea, founder and president of the Sri Lanka Wildlife Conservation Society (SLWCS). Learn more about how Ravi became a world-renowned conservationist with a mission to bridge the divide between humanity and our world's endangered wildlife and how you can support SLWCS's mission:

Tell us a little bit about the Sri Lanka Wildlife Conservation Society (SLWCS): what is your mission?

RC: The Sri Lanka Wildlife Conservation Society (SLWCS) is an organization dedicated to the protection of Sri Lanka's endangered wildlife, natural resources, and rural communities. It is a



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fully incorporated 501c3 tax exempt organization that is also fully registered in Sri Lanka.

The Vision of the SLWCS is to help protect and conserve the diminishing biodiversity of Sri Lanka and to make the local and international community aware of its endangered status.

The Mission of the SLWCS is to enable communities to balance ecosystem protection and economic development by pioneering a model for sustainable conservation. The SLWCS model is an inclusive strategy that gives consideration to environmental protection, integrated or holistic development that is sustainable, poverty alleviation, social mobilization, decentralization, bottom-up planning, mainstreaming gender, and basically sustaining more with community resources.

What is life like for people and animals who live in Sri Lanka?

RC: Sri Lanka is an island that is recognized as one of the important biodiversity hotspots in the world. An increasing population is putting tremendous pressure on the limited land area which results in habitat loss and degradation for many species. This also may lead to conflicts with wildlife.

How long and why have you been partnering with the Zoological Society of NJ?

RC: We have been partnering with the Zoological Society of NJ since 2019. The Society has been very supportive and is helping us to initiate a GPS Satellite tracking project to study the endangered endemic subspecies of the leopard and sloth bear found in Sri Lanka. Currently there is very little information about their ecology and conservation status. Our study will help to bridge the gap in information and develop effective science-based conservation measures for their long-term protection and conservation.

Is there anything else you would like to share with our readers?

The Sri Lanka Wildlife Conservation Society offers programs for people who have a passion for wildlife to get involved in our wildlife research and conservation activities. One is our volunteer program where people travel to our project site in Sri Lanka and live and work for whatever duration they want to. Given the current situation where international travel is restricted, we also have an e-Volunteering online program for people to get involved and support our research and conservation initiatives from the safety and comfort of their homes.

Thank you to our conservation partner, Sri Lanka Wildlife Conservation Society, and founder, Ravi Corea. To read the full interview, please visit <https://bit.ly/3ng3UDX>. To donate to SLWCS, please visit <https://bit.ly/2UhlAth>.

The Killing Machines

by Ravi Corea, Manoj Waduge, & Chandima Fernando
Sri Lanka Wildlife Conservation Society

Three distinct characteristics stand out in all the poachers we've met. One is their complete lack of remorse and compassion for the animals they slaughter. The second is their ingenuity and the third is how well they know the behavior of the animals they kill. These qualities make poachers formidable serial killers. They have specific traps for every type of animal they hunt based on their behavior.

The arsenal of guns, weapons, lethal traps and snares that poachers employ is quite diverse and varies from region to region and they tend to specialize in methods that are best for their location and the species they target. Many of the snares and traps are very old traditional methods that had been used for millennia. These traps are still assembled in the traditional manner using natural material such as vines, lianas, saplings, sticks and wood except for one deadly difference, the noose is now made with iron cable wire or nylon rope.

The use of explosives bait has become a common practice among rural farmers to protect their fields from wild animals. Using gunpowder from firecrackers, matchsticks and thunder flashes, villagers manufacture these deadly explosive devices known as "Jaw Breakers" as a means to kill large animals including elephants that feed on their crops. When an animal bites into the explosive baited food it explodes inside the mouth. Unfortunately, they do not kill immediately and leave animals with shattered jaws subjecting them to an agonizing death from starvation.

Why is poaching such a major issue in Sri Lanka? It seems incongruous for a country vested in Buddhism and with a legacy of respecting and protecting nature for millennia to have become a killing field. A sad outcome of this is that it has become increasingly difficult to see wildlife even in national parks. A sad fact is that while there are numerous public awareness campaigns in the country to save the domestic cow there are none to raise awareness about poaching or how poaching is decimating our wildlife!



For every animal that is saved or recorded killed from a poacher's trap many thousands of animals die

unreported and unrecorded. Every year the toll on wild animals from shot guns, trap guns, wire snares, various traps, pit falls, explosives and poison laden bait cannot be estimated but surely it must be in the hundreds of thousands. Further, poachers kill indiscriminately: Males, females, nursing mothers, pregnant animals, juveniles, babies, nesting birds, and untargeted species all fall victim. It is a pernicious method of killing where most times it causes a slow an agonizing death or leaves animals maimed for life.

The reality is our jungles and forests are becoming empty. Poaching is so widespread that to control it purely by apprehending poachers would be a futile effort, and whatever solution has to be based on education, awareness and socially responsible programs supported by the legal system. There should be heavy prison sentences for poaching especially in protected areas so they act as a deterrent. The sentence for a convicted poacher should be at least 3 to 5 years imprisonment.

The Sri Lanka Wildlife Conservation Society is planning to launch an island wide public education and awareness campaign and establish an Anti-poaching K-9 Unit to help to track down snares, trap guns and explosive bait. These dogs and their handlers will work with forest and wildlife officers and the police to rid the forests of the lethal killing machines that are decimating Sri Lanka's valuable wildlife. Given the number of animals that are killed annually one can just imagine how rich Sri Lanka is in wildlife. If the killing can be stopped the populations of animals will recover making Sri Lanka a true wildlife paradise.



SUPPORT YOUR FAVORITE WILD ANIMALS AT ESSEX COUNTY TURTLE BACK ZOO

We appreciate your generosity in strengthening Essex County Turtle Back Zoo's commitment to conservation, education, & inspiration. All donations to the Zoological Society of New Jersey support the Zoo by providing necessary funds for new habitat design & construction, general zoo improvements, operating support, and conservation programming. There are many ways to donate: Adopt an Animal, Donor Wall, Living and Memorial Tributes, Corporate Matching, Amazon Wish List, Monetary Donation, or Becoming a Member of the Zoological Society of New Jersey and Essex County Turtle Back Zoo.



Visit www.zoologicalsocietyofnj.org/support to get started!

Zoological Society of NJ Board of Directors

The Zoological Society of New Jersey, Inc. is a nonprofit 501 (c)(3) corporation, organized under the laws of the State of New Jersey. Its purpose is to promote the general welfare of Essex County Turtle Back Zoo, a facility of the Essex County Department of Parks, Recreation, and Cultural Affairs; to stimulate the public's interest in the growth, improvement, and development of Essex County Turtle Back Zoo through education and research with an emphasis on natural conservation of all species of animals; to support and sponsor fund-raising events to help in the financing of new facilities, purchase of equipment, and acquisition of animals; to encourage membership in the Society by persons interested in the promotion of the physical and aesthetic qualities of Essex County Turtle Back Zoo; and to stimulate the public interest in the development and enjoyment of Essex County Turtle Back Zoo and of animals everywhere.

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