



Rice Creek Associates Newsletter

Summer 2017

From the Director.

This spring and (so far) early summer have been unusually wet. Many of our trails or at least some sections of the trails were inaccessible for a while. Also the combination of a mild winter and wet spring had an effect on natural vegetation and, I assume, other wildlife. As a result, our dedication tree is threatened by the oak shoot blight, caused by a fungus and triggered by mild winters. We are trying to save it if we can. Our groundskeeper **Alan Harris** is back from his military service and now he is working on trails.

In May and June, the Field Station has been buzzing with many research activities by our faculty and other visiting research scholars. We hosted **Dr. Peter Rosenbaum's** bog turtle and cattails research groups, which provided many opportunities for our students to have valuable real field experiences. Our biological sciences faculty who are usually doing research on organisms at the Field Station (especially those working on projects which has been funded by Rice Creek Associates) are also actively pursuing their field research with their students. Examples of these projects include development in turtles, Amphibian diseases, bird research projects of **Dr. Michael Schummer** and his students, and the foraging patterns of the North American beaver.

The Ruth Sachidanandan Herb Garden has never been better. This spring we added many new herbs and we placed new dividers to contain plants each within their own space. Our goal is to maintain the herb garden plants to match those described in the herb garden brochure. The newly added plants are rare in the sense that they were available only as seed from Online nurseries, so we have to start them from seed. Our campus greenhouse helped a lot in this regard. I would like to take this opportunity to remind our members that the Herb Garden needs volunteers. At this point the staff of the Field Station and temporary workers are taking care of the Herb Garden.

This has been the first spring since we brought in landscape plants last spring. Almost all of our perennials and small trees survived the winter and deer damage; however, many were in bad shape. This spring we brought in many new ornamental plants to fill in the gaps and provide plants that flower all season long. My observation so far is that this has attracted many bees, humming birds, and other insect pollinators. The lesson from this past winter is that some of our landscape plants need to be protected from the damage they went through. We now have a plan in place. We also continue to repair and improve the grounds and the trails at the Field Station. We depend on our summer temporary workers and volunteers to accomplish our goals. Rice Creek always

welcomes and values the effort and the valuable time volunteers invest in improving the Field Station to make it a better place for our community.

Kamal Mohamed



Science at Rice Creek:

Freshwater Mussels: A marvel of the natural world

Mussels are bivalve mollusks, so-called because of their hinged shell (The valves). There are thousands of species worldwide, mostly in the oceans, with a few hundred in freshwater. Most freshwater species belong to a lineage known as “freshwater mussels” or “freshwater pearly mussels”. More broadly, mussels are an assemblage of unrelated freshwater and marine species capable of anchoring themselves to a hard surface by secreting fibers known as byssal threads. Byssal threads allow blue mussels (*Mytilus edulis*) to cling to rocks and endure wave action at the seashore and they are one of the reasons why the zebra mussel (*Dreissena polymorpha*) is such a nuisance. The so-called “freshwater mussels” also produce a byssus, but it is typically present during the juvenile period since these mussels shift to a burrowing life style when they get older (The byssal gland becomes vestigial).



Figure 1: A common and native freshwater mussel, the eastern elliptio (*Elliptio complanata*) from Rice Creek, New York.

Scientists sometimes refer to freshwater mussels as “pearly mussels” because these species typically grow to a length of several centimeters and the nacre or innermost surface of the shell has a gentle slope that would permit pearl formation (Figure 1). Thus, “pearly mussels” distinguishes larger freshwater species from zebra and quagga mussels (*Dreissena*; Figure 2) because *Dreissena* species are too small to produce gem-quality pearls (smooth, shiny, white to colorful beads that are several millimeters in diameter; Figure 3).



Figure 2: A cluster of non-native zebra mussels (*Dreissena polymorpha*) from the Oswego River, New York.

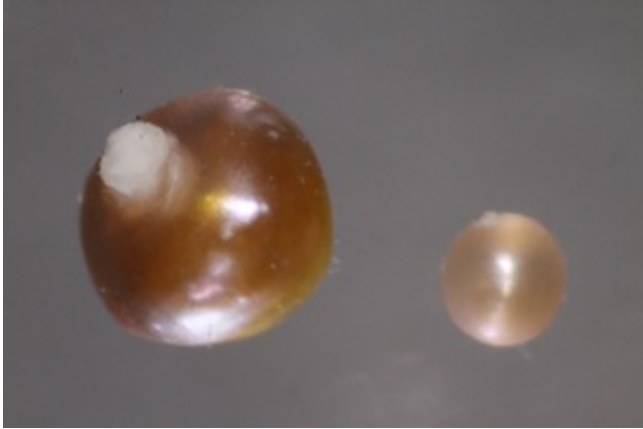


Figure 3. Pearls dissected from the mantle of the eastern elliptio (*Elliptio complanata*) from Oquaga Creek, New York. The larger pearl is approximately 1 mm and the smaller pearl is approximately 0.5 mm in diameter.

Although pearls have been used as jewelry for hundreds of years, and can be produced by several mollusk species, gem-quality pearls are rare. There were once several pearl fisheries worldwide, but many have declined due to overfishing. These days, pearls sold by jewelry stores are mostly produced in farms. Farmers plant a small particle into the mantle, and the bivalve coats the “seed” with nacre. The rarity of pearls contributed to a freshwater mussel “pearl rush” during the 19th century in the U.S. In 1857, a 93-gram pearl was collected from New Jersey. “Queen Pearl,” as it was called, was later sold for \$2,500 (It’s worth is probably several times this amount today) to Empress Eugenie of France. News of the sale created a sensation resulting in the widespread harvest of mussels throughout the nation. Many pearl fishers went away empty handed, but the scarcity of pearls and ease of mussel collection contributed to the depletion of many mussel populations.

Freshwater mussels are a treasure to the natural world that transcends their value to humans. Humans have long used shells as tools and consumed mussel meat, but mussels have considerable ecological value. Mussels are bottom-dwelling and feed on plankton suspended in the water column throughout most of their

lives (Figure 4). They recycle nutrients and help maintain water clarity, but mussels may themselves be food for many animals including fish, turtles, birds and mammals. Valves may be used as a substrate for algae and aquatic plants, attracting herbivores to the shell. Fish and other small animals may take shelter between the valves and tiny parasites may make their home inside the body of a mussel.



Figure 4. The eastern elliptio (*Elliptio complanata*) embedded in the bottom of Rice Creek with its incurrent and excurrent siphons exposed.

Mussels tend to live in specific spots in a river, and if mussels could talk, they would have an interesting story to tell about how they arrived at their location. Although mussels spend most of their lives as suspension feeders, they begin their life cycle as parasites of fish. At first, mussel larvae, known as glochidia, look like ordinary clams, but some have hooks enabling them to cling to fish. But how do they get onto a fish? The mother actually goes “fishing”. Most species produce a lure resembling a worm, an insect or a small fish, like something you would find in a bait-and-tackle shop. Glochidia may be stored in the lure or brood pouches in the mother. When a fish attacks the lure, its gets a mouthful of glochidia. Glochidia clamp down on the skin or gill and become enveloped by fish tissue. Over the next few weeks, glochidia obtain nourishment from their host before being released into sediments where they transform into burrowing

suspension feeders. Given their sedentary nature, fish help mussels colonize new habitats.

With approximately 302 species in North America and 840 worldwide, freshwater mussels are one of the largest and most important groups of aquatic invertebrates. Unfortunately, many species are facing extinction due to a combination of problems including physical changes to aquatic habitats such as dams that turn rivers into lakes or contaminants like mercury that were dumped into rivers and lakes. Mussel populations began to decline long ago as humans modified the environment to suit their needs, but this problem has only recently gained notoriety because of a growing concern about our environmental “footprint” in the face of biodiversity, and because the nuances of the parasitic life cycle of mussels have become more widely understood by the scientific community.

So, the next time you go boating, fishing or swimming you may be sharing the water with mussels. What can you do to help? Some simple suggestions include using less soap and other detergents to limit the influx of chemicals into watersheds, control erosion by installing plants to cover bare spots in your yard, and remove trash that clutters a lakeshore or riverbank.

For more information including photographs and videos of mussel lures, visit the Freshwater Mollusk Conservation Society website:
http://molluskconservation.org/MC_Ftpage.html

Andrew McElwain, Ph.D.
Visiting Assistant Professor
Department of Biological Sciences
SUNY Oswego

Nature nuggets

1. Although it has been a wet spring, most trails on the field station grounds are passable with a minimum of mud.
2. A recent item on a morning news show cited the plight of most butterfly species in terms of population decline due to habitat destruction. It specifically cited efforts to restore and protect habitat for the California Pipevine Swallowtail and Monarch. Every one of us can do our part by becoming familiar with our local species' larval food plants and planting them on our properties.
3. On a recent visit in search of butterflies on the trails, I encountered this interesting mud wasp nest:



If it weren't for taking a few pictures of a tree frog resting on the side of the boardwalk along the creek, it would have gone undetected.

- Mike Holy

Earth Day 2017: A learning experience and celebration

Rice Creek Associates celebrated Earth Day 2017 with a variety of programs and activities at the Field Station on Saturday, April 15:

Guest speaker **Susan Gately** presented a video on Lake Ontario, following up with questions from the audience.

Dr. Andrew McElwain had microscopes set up in the wet lab where living organisms from Rice Creek and Rice Pond could be viewed.

Representatives from the Coast Guard were on hand to distribute literature and answer questions.

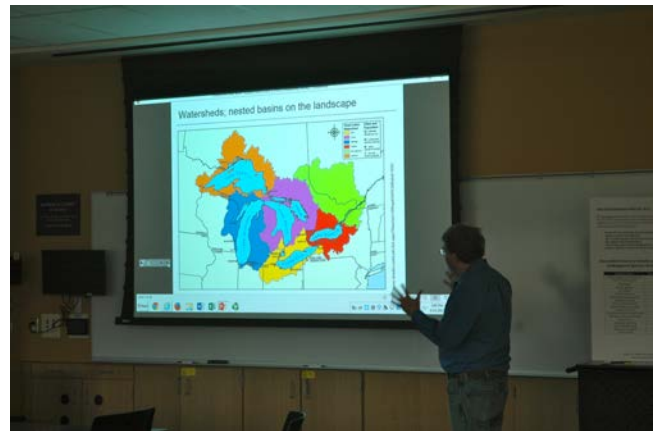
Dr. Eric Hellquist gave a fascinating talk about the abundance of microplastics in forage fish of Lake Ontario.

Children's activities and treats were provided, topped off with an Easter egg hunt on the field station grounds.

Throughout the afternoon, music was provided by **Denise Knight and Dick Drake**.



An attentive crowd during **Susan Gately's** presentation.



Dr. Eric Hellquist presenting his talk on microplastics in lake fish



Representatives from the Coast Guard ready to share information.



Organizing an Easter egg hunt for the children



And they're off!

Saturday, May 13, 1 p.m. "Birds of Rice Creek"

A "talk and walk" about spring birds was conducted by SUNY Oswego Visiting Assistant Professor **Dr. Michael Schummer**. By means of colorful slides, he described the natural history of Rice Creek Field Station and how the area meets the migration and nesting needs of birds. The group then proceeded outdoors where Dr. Schummer took them on a walk along the road away from the main parking lot and onto the Green trail, which contains two boardwalks along Rice Creek.

The group was enthusiastic and asked a number of questions along the way. Bird songs and/or actual sightings were experienced regarding the Baltimore Oriole, Pileated Woodpecker, Redstart, Chickadee, Robin, and Tree Swallow, to name a few.

Memorable moments at Rice Creek

Please share with us a special experience you've had at Rice Creek. It will appear in a future newsletter. Send it to **Mike** at fordlep@yahoo.com.

Save the date! Upcoming Reflection speakers at Rice Creek

Sat. Sept. 23: Walking the Appalachian Trail

Emile and Megan Christmann discuss their five and one-half month hike along the Appalachian Trail. This will include the equipment they used as well as stories of their encounters and experiences along the way.

What ticks you off?

Yup, that's it! TICKS! They hang about 18 to 24 inches off the ground, just waiting- not even having to eat for a year, just waiting, for an unsuspecting human or animal to walk by so they can catch a ride!

These nasty little bugs can make a pleasant walk in the woods with your dog downright nerve wracking.

So how do we avoid the somewhat alarming bite of ticks?

When you are headed for the woods or tall grass, remember to wear light colored long pants, long socks, high top hiking boots, a long sleeve wicking type shirt for the warm weather and a hat. If you decide to use a tick repellent, one with 20% to 30% Deet is the best defense.

Upon returning from your outing, check yourself and your pet for ticks. A lint roller is helpful to get them off before they bite, rolling it all over your clothing and your pet. Take a shower and check yourself before going to bed.

Some natural ways to deter them that might be worth a try are garlic tablets, neem oil or tea tree sprays diluted according to directions.

According to Daily Lifestyles, an online site, there are 11 symptoms that indicate Lyme disease could be present and may warrant a trip to your physician to check for it.

Within a few days to a month, check in with your doctor if one or more of these issues become persistent: rash, fever, headaches, nausea, fatigue, pink eye, memory issues, muscle or joint pain (especially with fluid buildup), insomnia, or heart problems.

What should you do if you find a tick on your body?

You may notice a swollen red bite first with a tick embedded in the spot. Before removing it, disinfect the area with rubbing alcohol. Using tweezers, get a firm hold on the head and mouthparts of the tick close to the skin; pull up and away with a steady firm hand without twisting.

You may want to take a photo of it, bag it, or immerse it in a container of alcohol to have it available to ID the tick if necessary.

Pay close attention to the onset, if any, of the symptoms as diagnosis and early treatment with antibiotics is the best strategy to knock the disease out before it develops into a chronic illness.

Enjoy the outdoors and be safe by taking the proper precautions to prevent or eliminate Lyme disease.

- Pat Jones

Book review

The Hidden Life of Trees

By Peter Wohlleben

How many of us consider that the trees we encounter around us every day might be sentient

beings? Do trees acknowledge each other, their offspring, or even other species? Do trees have a sense of passing time?

These are questions that Peter Wohlleben discusses with detailed and fascinating answers in his best-selling book, *The Hidden Life of Trees*, published in 2015. Made up of thirty-six concise chapters filling two hundred forty-one pages, this book encompasses an amazing array of topics having to do with trees and how they live with each other in the world. With specific titles such as “Friendships”, “The Language of Trees”, “Slowly Does It”, and “Tree School”, each short (5-10 pages) but satisfying chapter describes the many complicated and curious qualities of trees.

Each chapter is a revelation on the way a tree lives, in ways we don’t often think about. For example, in chapter 2 Wohlleben tells us that trees communicate through olfactory, visual and electrical signals, and even through sound waves. He further explains that trees do these amazing things, mainly through electrical signals through their roots, and thus underground. In chapter 3 he explains the fascinating and even surprising idea that forests need and even nurture their weaker trees to ensure the stability in the climate surrounding all of their trees.

In many chapters of this book Wohlleben reminds us of how most trees rely heavily on fungi for better health, better communication, and even nourishment of their offspring. Understanding how this synergistic relationship between trees and fungi works makes for very interesting reading throughout *The Hidden Life of Trees*, compelling us to rethink how we interact with trees around us.

This book will inspire many to look at trees differently and appreciate them in a whole new way. The next time we take a hike here at Rice Creek we would do well to examine the life of the trees around us and consider the possibilities Wohlleben presents. Readers of this book will

have a fresh new awareness of trees as very alive beings worthy of even a human's closest attention.

Reviewed by **Paulia Bates**



2017

SUNY OSWEGO'S RICE CREEK FIELD STATION

Since program size is limited, we are not able to accommodate groups to these free family friendly Saturday programs. An adult needs to accompany children under age 17.

Rice Creek Rambles 11 o'clock these Saturdays

July 8, 15, 22 & 29

August 5, 12, 19 & 26

Beat the heat in the shady woods and wetlands at Rice Creek. Join us for these free family friendly naturalist-led walks. Those planning to attend are asked to call 315-312-6677 on the morning of the walk to check trail conditions.

- ◆ The building hours are:
Monday to Friday 9:00 am to 4:30 pm
Most Saturdays 9:00 am to 3:00 pm
Closed Saturday July 1 and Tuesday July 4

- ◆ FREE programs most Saturdays
- ◆ Trails are open during daylight hours.
- ◆ Parking is available by the main building and near the gate.

Programs administered by Dr. Diann C. Jackson



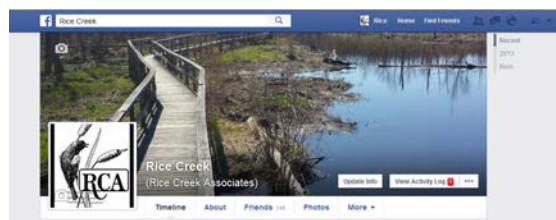
www.oswego.edu/rice-creek



315-312-6677

Rice Creek Associates (RCA) is on Facebook

To connect with RCA on Facebook, sign up for Facebook by visiting www.facebook.com/ or sign in using your existing account. When linking to RCA as an added friend, search for Rice Creek like you would search for a new friend. You will know you have the right link to add RCA when you see this RCA logo as a profile picture along with the Green Trail's boardwalk as its cover page, like so:



Help us improve our newsletter!

There are many things that you as members can do to assist us in improving the quality of our newsletter.

- **Share** your experiences of Rice Creek with us.

- **Write** a short review on a nature book that you enjoyed.
- **Send** a digital picture you took at Rice Creek that you think we may enjoy.
- **Suggest** ideas that we may include, or programs that you would like to see offered to our members and public.

Send these and any other ideas to **Mike Holy** at fordlep@yahoo.com, or call him at 315-622-1774. We look forward to providing information that would inform and entertain our members. Additionally, when responding to any of our specific articles, please contact **Mike** at the above email or phone.

Rice Creek Field Station

Rice Creek Field Station is a part of the State University of New York at Oswego. While its primary function is to provide facilities for field-oriented research and courses in the natural sciences taught at the college, facilities are also available for public education and recreation.

The field station houses superb collections, field equipment, and laboratories. It is surrounded by several hundred acres of forest, fields, trails and wetlands, including Rice Pond. School children visit the field station and many individuals and groups use the area for hiking and cross-country skiing.

Rice Creek welcomes dogs. However, to protect sensitive natural features and as a courtesy to other visitors, dogs should be on a six foot leash. Also, please be kind and clean up after your pet. Thank you.

Directions: To get to Rice Creek Field Station take Route 104, turn south on Thompson Rd., located 100 yards west of the College's main entrance. The field station is 1.4 miles on the right.

Hours:

Monday to Friday 9:00 am -- 4:30 pm

Saturday 9:00 am -- 3:00 pm

Trails are open dawn to dusk daily.

When visiting Rice Creek, please sign in and out at one of the brown registration boxes.

Rice Creek Associates

(RCA) is a support group that was formed in 1986 for the purpose of furthering the goals of Rice Creek Field Station (RCFS). It is the intent of RCA to expand the scientific, educational, and recreational opportunities at the station through community involvement. Over the years, RCA has continued to increase its membership making it possible to fund improvement projects that benefit the station and the community at large.

Current RCA board members

Robert Foster, President

Peter Rosenbaum, Vice President

Don Artz, Secretary/Treasurer

Michael Schummer, Small Grants Chair

Paulia Bates

Alan Harris

Michael Holy

Pat Jones

Dick Kaulfuss

Andrew Mcelwain

Sheri Morey

Cayla Taylor

Rice Creek Field Station Staff

Kamal Mohamed, Director

Diann Jackson, Assistant Director

Wendy Fragale, Secretary

Alan Harris, Groundskeeper

Join Rice Creek Associates

Name _____

Address _____

City _____

State _____ Zip _____

Email _____

Phone _____

____ New Membership (Calendar year)

____ Membership renewal

Level:

- | | |
|--------------------|--------|
| ____ Student | 5.00 |
| ____ Individual | 10.00 |
| ____ Family/Couple | 15.00 |
| ____ Contributing | 25.00 |
| ____ Sustaining | 50.00 |
| ____ Life | 250.00 |
| ____ Corporate | 500.00 |

I/We would like to make a tax-deductible contribution to the

- ____ General Fund
____ Trail improvement
____ Exploring Nature Program for Children

in the amount of \$ _____.

Total enclosed (membership + contribution)

\$ _____ Date _____

Please make checks payable to:

Oswego College Foundation/RCA

Return to:

Rice Creek Field Station #23

SUNY Oswego

Oswego, New York 13126

Rice Creek Associates
RCFS #23
SUNY Oswego
Oswego, NY 13126

TO: