Spring 2014

HUYCK PRESERVE

Myosotis Messenger

Announcements

The board of directors of The Edmund Niles Huyck Preserve and Biological Research Station is pleased to announce that Dr. Dawn O'Neal has been appointed the Preserve's new Executive Director. Dr. O'Neal, who has been with the Preserve since August 2011, first as the Director of Conservation Education and then as the Director of Conservation Education and Research, became Executive Director effective January 29, 2014. As Executive Director, Dr. O'Neal will serve as the Preserve's chief operating officer with responsibility for overseeing the Preserve's operations and programs.

Dr. O'Neal holds a BA in environmental studies from Washington University and a PhD in ecology evolution and behavior from Indiana University. She has extensive research experience in the fields of avian biology and migration, climate change biology, ecology, physiology, behavioral ecology, life history evolution, and eco immunology in both field and laboratory settings; authored several scholarly publications; taught courses at the undergraduate level; lectured on her research interests; and mentored students at the Mountain Lake Biological Station in Virginia. At the Huyck Preserve, Dr. O'Neal continues to pursue research on eco immunology in avian systems.

As the Preserve's Director of Conservation Education and Research, Dr. O'Neal has greatly expanded and enriched the Preserve's educational and research programs, worked tirelessly to further the Preserve's four part mission, and gained extensive knowledge of the Preserve's day to day operations, its budgetary and funding considerations, and its history, accomplishments, and goals.

The board of directors of the Huyck Preserve believes that the Preserve's current vibrant programs and accomplishments will continue to flourish under Dr. O'Neal's astute leadership. As Susan Kessler, the board's president, states, "The board is thrilled to welcome Dawn as our new Executive Director; her extraordinary talent and dedication will tremendously benefit the Preserve and our membership."

Administrative and Financial Manager, Carolyn Barker, and Executive Director, Dr. Dawn O'Neal are all smiles as they accept a generous grant from Robert Bucci and Jody DeMarco of Berkshire Bank

Thanks to the generous support of Berkshire Bank, the Huyck Preserve will be able to expand its reach in the local community through a $1,000 grant used to cover costs associated with local school visits.

2014 Calendar of Events

Annual Events

Bird Festival
Saturday, April 26
Eldridge Research Center, Pond Hill Road
1:00 5:00pm

Open House
Saturday, June 7
Visitor Center, more details TBA

Avian Population Monitoring (MAPS)
Friday, June 6; 5 11:30am
Wednesday, June 18; 5 11:30am
Friday, June 27; 5 11:30am
Wednesday, July 2; 5 11:30am
Wednesday, July 16; 5 11:30am
Friday, July 25; 5:30am 12pm
Friday August 8; 5:30am 12pm
Meet at Lake Myosotis kayak area

***Annual Membership Meeting and Special Member Event**
Saturday, June 21
Eldridge Research Center, Pond Hill Road
2:00 3:30 pm — **83rd Annual Membership Meeting**
3:30 5:00 pm – **Member Only Hike**
8 10pm **Solstice Bon Fire at Lake Myosotis**

Science Symposium
Saturday, July 26
Eldridge Research Center, Pond Hill Road
1:00 3:00 pm

Annual Benefit
Saturday, August 2nd
details TBA

***Thank-You Dinner and Guided Hike**
Saturday, October 11
Eldridge Research Center, Pond Hill Road
4:00 **Member Only Hike**
5:00 **Dinner at Eldridge Research Center**

Christmas Bird Count
Saturday, December 4th

Sign up for e mail reminders and notification of upcoming events at www.huyckpreserve.org.

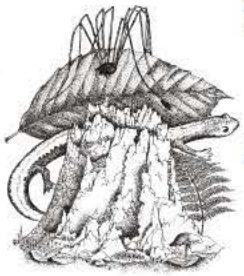
Nature Walks...

Wildflower Walk Series
with Chris Schiralli
Saturday, May 10
Saturday, July 12
Saturday, September 13
10:00 am

Living Off the Land: Springtime Medicines
with Justin Wexler
Saturday, May 24
10:00 am

Spider Walk
with Christina McLaughlin
Saturday, September 20
1:00 pm

***Full Moon Night Hike**
Saturday, November 8
8:00 pm



All walks to meet at
Eldridge Research Station

...and Science Talks

Thursday Night Lecture Series and Potluck
June 19-August 21
Eldridge Research Center
6:00 pm potluck; 7:00 pm lecture

Join us Thursday evenings for dinner and our very popular lectures featuring researchers working in a variety of scientific fields. You won't want to miss these interesting and informative talks. We will be announcing specific topics and speakers in upcoming email blasts. If you haven't already signed up for our e mail updates you may do so on our website: www.huyckpreserve.org. Stay tuned and see you there!

*** Represents Member Only Activities. For a full list of our exclusive Member Benefits and Events, see page 9**

Huyck Preserve Winter Festival

February 2, 2014

This year the Huyck Preserve eagerly greeted over 170 guests to our Annual Winter Festival, making it the largest and most successful one yet! Of the many activities that were enjoyed this year, ice skating, snowshoeing, and the ever popular ice luge were among the mix.

Our success would not have been possible without the involvement of many community organizations, including the Rensselaerville Rod and Gun Club, demonstrating ice fishing; the Rensselaerville Volunteer Fire Department, with an ice rescue demonstration; and the Rensselaerville Library's story time. Several local vendors also showed up to support this wonderful event; find them pictured throughout this section.

Thanks to all who came out to show their support and be sure to keep an eye out for our next Winter Festival!

Images generously provided by J.R. Delia

(Above) Members of the RVFD pose for a smile as they prepare for the ice rescue demonstration. Meanwhile, other members impress the crowd as water shoots from the fire engine onto Lincoln Pond dam. (Right)

(Above) SUNY Cobleskill chapter of Ducks Unlimited and The Wildlife Society were among the organizations who came out to support the Preserve's Winter Festival

(Left) Capital Region natural history artists, Denise Hackert-Stoner and Scott Stoner, provided visually stunning prints and post-cards of their nature photography. Come check out Naturelogues once again at our Annual Bird Festival, April 26th from 1-5pm.

(Right) April Caprio of Medusa General Store holds her twins behind a display of delicious snacks, including an old fashioned popcorn maker! We were thrilled to have our own local market provide our guests with goodies as they escape the cold.

(Left) Richard Ronconi of Partridge Run Farm and Apiary delighted guests with an assortment of local honey and handmade beeswax candles.

Making Climate Change Personal

Dawn O'Neal, Ph. D.

As a researcher interested in climate change and its effects, I try to keep informed about recent research on climate change. Perusing the science newsfeeds, it is evident that the topic of climate change is garnering a great deal of consideration by scientists around the world. In the last few months, work has been published confirming that arctic ice is being lost at a rate of 5 days per decade[1]; that cultural world heritage sites like the beautiful city center of Istanbul, Turkey may be lost to rising sea levels[2]; and that black capped, Carolina, and hybrid chickadees are all moving northward with warming[3]. Most spectacular of all, may be a new study that suggests that rates of warming vary by season and region[4], further complicating our ability to accurately predict the effects of climate change on our planet.

What's striking about all of these studies, at least from my perspective watching deer navigate the snow covered hill above the Visitors Center parking area, is how far away/disconnected/separate the idea of climate change seems at this moment. That is not to say that climate change doesn't "exist." This winter may be the coldest I've experienced since my arrival in New York three years ago, but I am well aware that winters use to be like this ALL the time and that the two winter previous have been the anomalies. This separateness arises in part because the fate of arctic ice and chickadee range shifts are not occurring in my backyard, making it difficult to relate to the awesome changes that our planet is undertaking in response to changes in climate. How then do we bring climate change home and go the extra mile to make ourselves better environmental stewards?

Mame Schrager, Board Secretary

Part of this task is the responsibility of the researchers conducting this work. I know that most people don't peruse science news feeds like Science Daily or Science Newsline let alone subscribe, which means researchers need to work harder to bring their results directly to the people. As a biological research station, the Preserve encourages such researcher public interactions through our Summer Thursday Night Lecture Series, guided hikes, and newsletter articles. Of course, as a collective we are also taking part in amassing data that may lead to the next important find with respect to climate change. In past newsletters we have highlighted both the importance of long term data collection and ecological monitoring for this very reason (*Myosotis Messenger* Spring 2012). For those (volunteers) with the patience and curiosity to be a part of such long term data gathering, the Preserve offers opportunities for individuals to collect data that contributes to projects at the state and national level. Highlighted in the article by Conservation and Outreach Coordinator, Christina McLaughlin, on page 10 is new research we are conducting on the timing of spring. Profiled previously, are projects monitoring hemlock wooly adelgid infections (*Myosotis Messenger* Fall 2012) and avian breeding and survivorship (*Myosotis Messenger* Spring 2012). Volunteers interested in any of these projects are encouraged to contact Christina directly to learn more and how you can assist in adding to our local and global understanding of the effects of climate change.

For those of us lacking the patience to see the end results of long term data collected from our own backyard, myself included sometimes, I encourage you to work towards putting a face on climate change. I read the article about rising sea levels putting cities like Istanbul in peril, and thought of all the history and future memories that would be lost in the hometown of my husband, Mert. Tom Lyons, a member of our Board of Directors, brought the effects of arctic ice loss closer to home by sharing npr.org's story and video "A Hunk of Planet Dissolves Before Our Eyes," where a piece of ice the size of Manhattan is shown falling off into the ocean. And those black capped chickadees, the perfect size for small hands and first time birders during our mist netting demonstrations if they just keep moving north, all we'll have left are these pictures of Buildings and Grounds Supervisor, Adam Caprio, and Board Secretary, Mame Schrager, smiling for our cameras. Perhaps the easiest way to personalize climate change is to walk the Preserve's trails in the shadow of our majestic (but ever changing) forests and realize that just by supporting the Huyck Preserve in its conservation and education efforts, you are furthering current understanding and educating future stewards who may join the effort to understand our planet in the face of a changing climate.

Adam Caprio, Supervisor of Buildings and Grounds

References

1. Elizabeth N. Cassano, John J. Cassano, Matthew E. Higgins, Mark C. Serreze. Atmospheric impacts of an Arctic sea ice minimum as seen in the Community Atmosphere Model. International Journal of Climatology, 2013; DOI: 10.1002/joc.3723

2. Ben Marzeion, Anders Levermann. Loss of cultural world heritage and currently inhabited places to sea-level rise. Environmental Research Letters, 2014; 9 (3): 034001 DOI: 10.1088/1748-9326/9/3/034001

3. Scott A. Taylor, Thomas A. White, Wesley M. Hochachka, Valentina Ferretti, Robert L. Curry, Irby Lovette. Climate-Mediated Movement of an Avian Hybrid Zone. Current Biology, March 2014 DOI: 10.1016/j.cub.2014.01.069

4. Jianyang Xia, Jiquan Chen, Shilong Piao, Philippe Ciais, Yiqi Luo, Shiqiang Wan. Terrestrial carbon cycle affected by non-uniform climate warming. Nature Geoscience, 2014; 7 (3): 173 DOI: 10.1038/ngeo2093

Summer Employment at the Huyck Preserve

Join the Preserve team this summer with one of our various job openings

Lake Myosotis Life Guard

Multiple part-time ten week positions available
(June 23-Labor Day weekend).

Applicants must be at least 16 years of age and have current American Red Cross Lifeguard Certification with Waterfront and current American Red Cross certification in CPR/AED.

Environmental Educator

One six week position (June 30th-August 8th, 2014) is available for a summer environmental educator for our elementary (K-5), middle school (grades 6-8), and junior high (grades 9-10) summer education programs.

Applicants must have completed or be working towards a BA/BS degree, preferably in a science related field.

Summer Residential Coordinator and Field Teaching Assistant (RCTA)

Two eight week positions (June 30-August 24, 2013) are available for support staff for two sessions of its three-week high school summer ecology course,
Wildlife Ecology Research .

Applicants must have completed a BA/BS degree, preferably in a science related field.

Find full job descriptions and application information on our website at www.huyckpreserve.org under the Employment Opportunities link, or call our office at (518)797-3440

The Story of the Flying Slavemaking Queens

Andreas Modlmeier, Ph. D.
Post Doctoral Research Associate, University of Pittsburgh

It had been cold and foggy for days. We did not remember when we had last seen the sun, the only thing we knew was that we had to finish our project within the next few days. All the preparation and work during the last weeks would have been worthless if we could not set up our field experiment in time. It had been our biggest endeavor to this point and we were determined to finish it successfully.

It had all started a year before. I was investigating how the behavior of acorn ant colonies influence their productivity, that is, their efficiency in producing offspring. Acorn ants of the species *Temnothorax longispinosus* occur in deciduous forests in the northeastern United States and Canada and inhabit preformed cavities in acorns, hickories, and sticks. Their colonies contain, compared to other ant species, relatively few workers (on average between 20 and 40 workers) making them an ideal model system to study colony behavior. After weeks of ant collecting at the Huyck Preserve and months of laboratory experiments at my (then) home university in Germany, my results revealed that ant colonies from areas with a higher density of ant nests were both more aggressive and more productive. This suggested that ant nest density might be a good indicator for habitat quality: the more ants you can find in an area, the better the conditions to live there must be. While this was an interesting finding, I did not yet know why ant colonies were more aggressive in these areas. I had two potential explanations: (1) only aggressive colonies were able to survive in an area with many competitors (natural selection for higher aggressiveness) or (2) frequent encounters with competitors had raised the aggression of colonies in dense areas (phenotypic plastic response).

Enclosures used to manipulate density of acorn ants and the presence of slavemaking ants

To solve this puzzle, I joined forces with Tobias Pamminger, who was studying the host parasite coevolution between acorn ants and slavemaking ants. Slavemaking ants are social parasites, that is, they exploit the cooperative brood care of another ant species by stealing their pupae. Once the pupae hatch in the slavemaking nest, they take over all the important tasks like brood care and foraging, because they believe to be in their own nest. Tobias had found that acorn ants increase their aggression for several days after they encountered a slavemaking worker, indicating that acorn ants are indeed able to change their aggressiveness to fight off the slavemaking ants. But how would constant presence of a slavemaking colony in their neighborhood influence their aggression and survival? We planned to build several field enclosures at the Huyck Preserve in May so that we could manipulate both acorn ant density and slavemaking ant presence during the summer.

Once we arrived at the Huyck Preserve to start our experiment, we quickly began collecting both acorn ants and slavemaking ants. At this time we also began building our enclosures with aluminum flashing. The purpose of the enclosures was twofold: (a) keeping our colonies in the selected treatment (high density/low density and parasite presence/parasite absence) and (b) keeping other ants out. Using duct tape, shovels and staple guns, we did our best to fight the relentless rain. Despite a lot of minor and some major problems, we were able to finish the enclosures in time and released our colonies. After two months, we came back to collect the ant colonies again. However, what we found then, was not what we had expected. Due to an early Summer, the wedding flight of the slavemaking ants had occurred earlier this year. As a result, some of our acorn ant colonies were invaded by founding slavemaking ant queens, who had flown over our aluminum flashing into our enclosures. At first we were afraid that this could interfere with our experiment, but we soon realized that we had enough slavemaking queen invasions to actually analyze this event statistically. In fact, this was a once in a lifetime opportunity to investigate one of the least studied steps in the life cycle of slavemaking ants: the founding of a new slavemaking ant colony.

The life cycle of a slavemaking colony begins with the wedding flight of a slavemaking queen and a male. After the wedding flight, slavemaking queens invade acorn ant colonies, expel or kill the adult workers and keep the brood as future slaves. Once these slaves hatch, they will raise the first slavemaker workers, who will then raid other acorn ants for more future slaves. This first step is crucial, because failure will result in the death of the slavemaking queen. Our results demonstrated that even aggressive acorn ant colonies were not able to avoid slavemaking queen invasion. However, more aggressive acorn ant colonies were able to rescue more brood during such an attack. Presumably, aggressive workers were able to immobilize the slavemaker queen for a longer time period, so that fellow workers had more time to evacuate the brood. This was an exciting finding that showed that an event that was so limited in time (1 2 weeks in summer) selected so strongly for higher aggression in acorn

***Temnothorax longispinosus* colony taking care of their brood**

ants. The results of this study were published last year under the title "Raiders from the sky: slavemaker founding queens select for aggressive host colonies" in the scientific journal *Biology Letters.*

This study also demonstrated the importance of performing experiments under natural conditions in the field. While laboratory experiments are important, because we can control all possible variables (temperature, food availability, etc.), only experiments in the field could have revealed the story of flying slavemaking queens and how it influences acorn ants. I am grateful that the Huyck Preserve offers young scientists such a great opportunity to study animals in their natural, undisturbed environment.

Winged slavemaker founding queen

Not yet a Member? Join Today!

There's no better time than now to become part of the Huyck Preserve membership family! Take a look at the exclusive benefits and events waiting for you:

Member Benefits

- Receive membership card and Huyck Preserve decal
Discounts on Visitor Center merchandise
Receive biannual newsletter *Myosotis Messenger* to your doorstep
Voting privileges at the Annual Meeting
Access to our newly expanded beach program
Access to kayak/canoe rack rental
Discounts on education programs
Access to Member-Only events

2014 Member-Only Events

June 21st - Solstice Member Day
Annual Meeting with Guided Hike immediately following. Members will then be encouraged to head down to The Palmer House Café for some food and drink. Summer Solstice bon fire at Lake Myosotis beginning at 8pm.
Eldridge Research Center

October 11th - Thank-You Dinner and Guided Hike
Hike beginning at 4pm with Dinner to follow at 5pm
Eldridge Research Center

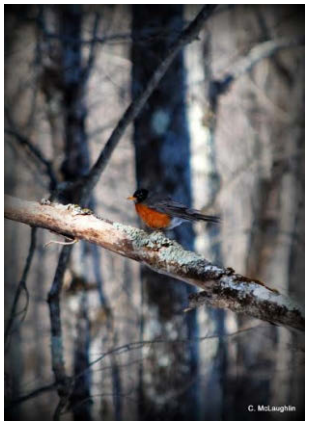
November 8th - Full Moon Night Hike
Visitor Center

When has spring sprung?

After a long winter, we all watch anxiously for the first signs of spring. Have you ever wondered how animals and plants know winter is over?

Christina McLaughlin, Conservation and Outreach Coordinator

We all have our favorite sign of spring, the one that definitely means winter is over: the return of the red winged blackbirds, the first songs of the spring peepers, the buds on the maple trees. But have you ever wondered why these events mark the changing of the seasons? How do animals know to return from their winter sites or to rise from their burrows? How do trees know to put out their buds, or the plants to begin to poke above the soil?



Phenology is the study of the timing of things. Anyone can be a phenologist by keeping a record of when certain events occur when the first hummingbird arrives at your feeder, when the first trillium flowers, when the leaves unfurl from their buds. Henry David Thoreau, noted naturalist, philosopher, and writer was a phenologist. His detailed observations from Walden Pond in Massachussetts have formed the basis of a long term climate change study[1]. Aldo Leopald, writer, philosopher, and conservationist, kept detailed notes of the seasons at his farm, which inspired his seminal book, The Sand County Almanac[2].

The biological and ecological changes associated with phenology occur under the influence of numerous environmental factors that also act as external cues to living organisms. Air temperature, soil temperature, the amount of sunlight, the angle of sunlight, precipitation amounts, and humidity are just some of the physical environmental cues that point toward the arrival of spring. When these physical cues combine with the organism's internal clocks, called circadian rhythms, then plants and animals know to change their seasonal "behaviors".

Since the environmental cues most organisms rely upon are closely tied to the climate, phenology also provides strong evidence for global climate change. Through careful records of the timing of events such as first budding and first leaf out on trees, when the leaves drop in the fall, or when bird species arrive at feeders in the spring, scientists have discovered changes in many species patterns that are consistent with shifting climates and an earlier start of spring. With these changes in patterns, and thus timings, organisms that rely upon each other can become out of sync. For example, birds returning from their wintering grounds in spring time their arrival and subsequent egg laying and rearing of young to coincide with the emergence of caterpillars, food for growing nestlings. But if caterpillars are hatching earlier, then their young may not survive.

Understanding this shift in the timing of biological events is important to understanding the impacts of climate change on people as well. Phenology can help farmers and gardeners who must decide when to plant in the spring and when to harvest in the fall: plant too early and risk losing the crop to late frosts, plant too late and risk the fruits not ripening before fall.

As part of our partnership with the Ecological Monitoring and Management Alliance (EMMA), Huyck Preserve is piloting a phenology trail. This trail will have marked trees and plants with identification tags, which we will walk regularly in order to observe the changes of the seasons in specific species such as jewelweed and sugar maple. This data will be submitted to the US National Phenology Network's Nature's Notebook, an online database of observations from around the country. Next year this will become a citizen science effort at the Preserve, encouraging volunteers of all ages to make observations along the trail and record their data.

Until our trail opens, you can always start a phenology study right in your own back yard. Grab a notebook and pen and spend a few minutes each day observing your yard what birds are at the feeder? What are the plants doing? What is the weather like? By keeping track over the years, you'll see patterns of when things occur, and then you will know when spring has really sprung.

Check out the following resources to help you get started keeping a phenology record.

National Wildlife Federation:
http://www.nwf.org/Wildlife/Wildlife Conservation/Phenology.aspx
US National Phenology Network:
https://www.usanpn.org/natures notebook

References
1. http://www.nwf.org/News-and-Magazines/National-Wildlife/News-and-Views/Archives/2007/Walden-Warming.aspx
2. https://www.aldoleopold.org/Programs/phenology

Summer Youth Education at the Huyck Preserve

Wildlife Family Hour

This popular Tuesday morning program runs throughout the summer as an engaging introduction to wildlife. This program is open to kids of all ages .

Every Tuesday, July 1 - August 12
10:30-11:30am
Free thanks to the generous support of our members

Nature Study*

This program introduces elementary school children to nature through a week-long half day program. Students spend time outside experiencing nature and walking the trails, and learn how to identify common plants and animals in the area.

Grades K-2: August 4 - 8; 1-4pm
Grades 3-5: July 28 - August 1; 1-4pm
$30 members, $80 non-members

Natural History Day Program*

This program provides the opportunity for rising Middle School and Junior High students to learn about the natural world through observation, exploration and research. The Middle School program will explore the Preserve's natural treasures through ecological concepts while learning field research techniques. The Junior High students will expand on this to be immersed in a hands-on field research experience.

Grades 6-8: July 21-25; 9am-4pm
Grades 9-10: July 14-18; 9am-4pm
$200 members, $250 non-members

Wildlife Ecology Research*

In this intensive 3 week program, rising juniors and seniors learn basic ecological principles through hands-on research experience. Wildlife Ecology Research culminates in rigorous small group research projects where students develop and implement research projects from hypothesis to final paper. This program aims to provide a significant academic experience that will help students prepare for courses and research experiences at the college level.

Session I: July 6-27
Session II: August 3-24
$3600

*Registration required for our **Nature Study**, **Natural History Day Program** and **Wildlife Ecology Research** programs. Registration forms and information on scholarships available on our website at www.huyckpreserve.org/summer-programs or call the Main Office at (518)797-3440

HUYCK PRESERVE
AND BIOLOGICAL RESEARCH STATION

2014-2015 Membership Form
Membership year is May 1, 2014 - April 30, 2015

Membership Levels

❑ Student	$ 20
❑ Individual	$ 40
❑ Family	$ 50
❑ Contributing	$ 125
❑ Sustaining	$ 300
❑ Patron	$1,000
❑ Benefactor	$2,500 or *more*

Name

❑ New Member ❑ Renewal

Address

Membership $

City **State** **Zip**

Additional donation $

Phone **Cell**

Total Amount $

Would you like to be added to our e-mail updates?

e-mail

Thank You!

The Edmund Niles Huyck Preserve, Inc. is a registered 501(c)3 organization and all gifts including dues are deductible to the extent provided by law.

Connecting people to nature through conservation, research, education, and recreation.

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