

NIGHT VISITORS

By Cynthia Henshaw

As the sun sets, most of us turn on the lights, close the doors and pull the blinds. While we retreat to the spaces where we are most comfortable, other creatures venture out and about. Not all are scary or dangerous.

Night-time is a great time to find moths. Drape a white sheet on a line hung between two trees and shine a light onto the sheet. Give it some time, an hour or two, then come back with your flashlight and camera. You might be surprised to see what you'll find.

As a young boy, Brian Klassanos got to spend a bit of each summer in northern Vermont at his uncle's dairy farm. The surroundings were a sharp contrast to more densely packed Ludlow. The differences weren't lost on Brian, who enjoyed the open spaces and tremendous opportunities to go butterfly hunting and fishing with his cousin. It's those times in the fields and woods of Vermont that Brian credits with whetting his appetite for natural science and all things outdoors.

Brian and Martha Klassanos's property runs along Muddy Brook in Ware. Over the years they've worked hard to manage it for unique plant communities, especially open gravel or wet shrubby habitats. The Klassanos's know that plants and animals that need those types of areas to live and reproduce have fewer and fewer places available.

After several timber sales, removal of a small hilly gravel deposit and multiple herbicide treatments to remove invasive plants the hard work is paying off. Between 2009 and 2014, Brian found 73 species of butterflies; there are only 103 species that breed in Massachusetts according to the Mass. Butterfly Club. In 2014, Brian identified over 130 moth species. He used the hanging sheet method to search for these night-time fliers.

Until a few years ago there was only one *Ceanothus americanus* plant, the New Jersey tea, growing on the Klassanos property. After researching the New Jersey tea and discovering its importance to various rare moths, Brian decided to raise New Jersey

tea seedlings with the intention of planting them on the property. Now there are 1,200 seedlings growing in his hoop house. It maybe the high concentration of New Jersey tea plants was enough of an attractant, but last summer the state endangered *Apodrepanulatrix liberaria* was among the moth species Brian identified.

The New Jersey Tea Inchworm



New Jersey Tea Inchworm moth (Apodrepanulatrix liberaria)

(*Apodrepanulatrix liberaria*) is a pale yellow to tan or reddish-tan color. There are dark, wavy lines that run across both pairs of wings as if to circle the moth's body. At about an inch long from wing-tip to wing-tip, the New Jersey Tea Inchworm is of average size. You can find the adult moths from late August through late September when they mate and lay their eggs that overwinter.

It's the dependence of the newly hatched larvae to feed on the New Jersey Tea's young foliage in the spring that makes this moth rare in Massachusetts. We just don't have enough of the plants to support the moths that are dependent on them.

The Massachusetts State Wildlife Action Plan shows that Ware, Hardwick and Palmer used to include a big pine barren with lots of pitch pine. Pitch pine needs fire to germinate its seedlings and kill off competing vegetation. EQLT's Hyde Woodland Preserve rests on the southern edge of the Klassanos property. Along its talus slopes is a clump of pitch pine, struggling to stay alive as the surrounding white pines grow faster and are overtopping them. A wide variety of moth and butterfly larvae feed on pitch pine. The declining amount of pitch pine in the region means the moths and butterflies are also declining.

The state-status Threatened Pine Barrens *Zanclognatha* (*Zanclognatha martha*) adults are out in July and early August after their larvae pupate in June. These moths, whose larval plant is pitch pine, are less than an inch across and their wings get darker towards the outer edges. Brian collected pitch pine seeds and is germinating them to increase the amount of pitch pine along Muddy Brook.

MESSAGE FROM THE Executive Director

Cynthia Henshaw



Since purchase of the Frohloff Farm in 2010, we've actively moved on key stewardship practices designed to promote the myriad of conservation goals for the land; preserving water quality, while growing food and improving wildlife habitat for a wide variety of species. We don't envision an end-point in this process, because there will always be more invasive plants to control and some of the habitat types are fleeting – like periodically cutting saplings to keep the young growth from maturing.

Down by the river we have another habitat type that needs periodic intervention to remain on the landscape. There's a small patch of pitch pine-scrub oak woods tucked between the former railroad bed and river. Brian Klassanos found some rare moths at his place that use pitch pine, and they live just over the hill from the Frohloff Farm. It's exciting to think that the Frohloff Farm might also be able to support good feeding and breeding spots for rare species.

Pitch pine (*Pinus rigida*) is fairly widespread throughout the northeast, but tends to grow slowly and gets overtopped by other trees. It's important to actively intervene and remove the other trees by harvesting or girdling those competitors. We've measured and tagged all the pitch pine at the Frohloff Farm to monitor their growth over the years. Two winters ago the white pines, oaks and other trees were removed during the harvesting operation, leaving the pitch pines.

In 2016 we are planning a prescribed burn on eight acres. Pitch pines respond favorably to fire. Their thick bark protect the living parts of the tree from heat damage and the cones often need the heat to open, spreading their seeds on the newly cleared soil. Fire also helps reduce competing vegetation. White pines and grey birches are killed by fire. Fire will also deter invasive plants like buckthorn, multiflora rose and honeysuckle.

Funding for the prescribed burn is coming from an NRCS EQIP (Environmental Quality Incentives Program) grant. We've contracted with the folks at Northeast Forest and Fire Management who have years of prescribed burning experience. Local fire fighters will have the chance to gain valuable experience with open fires in a controlled setting. Prescribed burns can only happen with the right weather conditions, including wind and humidity. The target period is for early to mid-May, so we are hoping for the right amount of rain this spring!

We are excited to see the changes a prescribed burn will have on the pitch pine and other plants and animals at the Frohloff Farm. Those changes will be documented and the information evaluated as we continue our stewardship of the Frohloff Farm.

THE EAST QUABBIN LAND TRUST

works to foster the sustainable use of our natural and historic resources for the benefit of all generations through the conservation and stewardship of the farmlands, woodlands and waters in our region of Massachusetts.

As a non-profit organization the East Quabbin Land Trust envisions a regional community that continues to care for its natural environment and supports a sustainable local economy, ensuring a high quality of life for generations to come.

We welcome your thoughts, articles, and photographs on events in our area. For more information about the land trust, to become a member, or request a change of address, please contact us at:

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GETTING READY TO GARDEN

By Cynthia Henshaw



Ken and Genevieve Groeppe's garden with butterfly bush and raspberries, among others, that are beneficial to bees and butterflies

Vegetable gardening is a passion for many. Producing the perfect tomato, or stocking up on green beans, squash and apple sauce for winter are signs of a successful growing season. We put in a lot of hard work preparing the soil, sowing the seeds and weeding the beds. Many of us probably miss the critical helping hand (actually the helping body) of the insects that pollinate the flower blossoms for us. Production of over 50% of the fruit, vegetable and nuts we consume are dependent on bees or other insect pollinators.

Honey bees are an important part of this equation, but our native solitary bees are also significant pollinators. Especially for plants like cucumbers, pumpkins and squash that need a larger bee, like the bumblebee, to do the pollinating. Expanding our gardens and landscaping plants to grow a wider variety of plants will help our native pollinators and also help our gardens be more productive.

Here are a few suggestions, though whether or not they are appropriate for your setting is up to you to decide. Some plants, like raspberries or blackberries or bee balm (*Monarda* spp.), are “aggressive” because of their ability to expand into neighboring areas by using rhizomes. Still other plants like butterfly bush (*Buddleia* spp.) are non-native to our area but are great nectar sources for all kinds of bees, butterflies, wasps and hummingbirds. According to Ken Groeppe, who is expressing a lifetime of passion for butterflies by supplementing his garden in West Brookfield, “the chance of this species [butterfly bush] becoming a pest are minimal, and its value is inestimable.” Ken has planted over three dozen butterfly bushes near his garden over the past fifteen years. Other recommended plants are catnip and clover, violet and marigold. Queen Anne’s lace and milkweed

are good food sources for bees and butterflies.

Typically wasps are thrown into the pest category because of their ability to cause intense pain. Before pulling out the can of pesticide, consider that wasps have a high-protein diet. This means that they eat soft bodied insects, like caterpillars and leaf hoppers, which can damage your vegetable plants. If their hive is far enough away from spaces you need to use, then leave them to do their work of ridding your garden other unwanted pests.

This winter as you pour through the seed catalogues looking for your favorite vegetable varieties or new cultivars, consider

expanding your order to include plants that can help our native pollinators too. When making these choices know that you’ll be helping our native bees, butterflies and wasps as well as getting ready for a productive garden. ■

Here is a partial list of plants important to bees and butterflies of our region.

- Aster (*Aster* spp.)
- Blueberry (*Vaccinium* spp.)
- Clover (*Trifolium* spp.)
- Everlasting (*Gnaphalium* spp.)
- False indigo (*Amorpha* spp.)
- False nettle (*Boehmeria cylindrical*)
- Lupine (*Lupinus* spp.)
- Mallow (*Malva* spp.)
- Marigold (*Tagetes* spp.)
- Milk vetch (*Astragalus* spp.)
- Milkweed (*Asclepias* spp.)
- Nettle (*Urtica* spp.)
- Parsley (*Peroselinum crispum*)
- Queen Anne’s lace (*Daucus carota*)
- Snapdragon (*Antirrhinum* spp.)
- Sorrel (*Rumex* spp.)
- Stonecrop (*Sedum* spp.)
- Sweet fennel (*Foeniculum vulgare*)
- Thistle (*Cirsium* spp.)
- Violet (*Viola* spp.)
- Winter cress (*Barbarea* spp.)

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Every gift is important to us and helps fulfill our mission together. We are only able to accomplish important conservation, stewardship and education efforts with your support. Thank you for your generosity! We apologize for any errors or omissions.

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CATCHING UP WITH RESHMA PATEL

Choosing a career path in conservation is difficult, but rewarding. Finding a place where others share your passions and having the ability to inspire an appreciation of nature in another person is an amazing experience; an experience that the position of Service Learning Coordinator at East Quabbin Land Trust provides.

"When I first came to the EQLT, I wasn't quite sure what to expect. The position goals for a Service Learning Coordinator (SLC) were laid out by MassLIFT-AmeriCorps and I had a general idea of my potential projects, but I still needed to figure out how I was going to play my role in this community and effectively complete my duties. I was far removed from my comfort zone and only barely getting into any sort of familiarity with my new surroundings when I attended the first event of my service year with EQLT.

The dinner at Wendemuth Meadow Preserve was a great way to get to know some of the volunteers of the organization and people in the community. What struck me the most is how genuinely welcoming everyone was, allowing me the chance to really get to know people in an informal setting. I was also pleasantly surprised at how passionate everyone was to be a part of the ongoing conservation efforts near their homes.

The property itself was picturesque; the meadow looked so different than when I saw it for the first time during my follow-up interview in early summer. With the fields already mowed, you could see the rolling hills and the stone walls separating each hayfield. Wendemuth seemed to be its own world, existing apart from the hassles and hustles of everyday life. I could imagine spending hours here watching the world unfurl in front of me. Having never lived in such proximity to a rural landscape, I found myself excited to see what scenic changes each season brought along.

As SLC I knew my position demanded a lot of time fostering the concept of conservation and land stewardship in the minds of children. The dinner at Wendemuth gave me the opportunity to spend time with kids that were excited about the preserved land. I was delighted to see children obviously benefitting from this

conservation effort. Watching them let their imaginations inspire them as they ran around the barn, look for frogs and insects in the wetlands, and play games along the winding trails, and then still begging to explore the property after the sun went down, left me with a sense of wonder and appreciation. The night drew to a close with the kids sharing scary stories around a campfire and roasting marshmallows.

This dinner was the perfect way to make me feel comfortable in my new position and begin looking forward to the busy months ahead."

With a few months of service under her belt, Reshma is eager to continue down the path of inspiring community engagement in youth and sharing conservation opportunities. The winter months will be full of event planning and preparation for coming activities, such as the Spring Fitness Challenge focused at the Gilbertville Fitness Trail with the help of the Hardwick Youth Center and a community based

Family Fun Day at the Mass Central Rail Trail in New Braintree. Also, high schoolers from the region will be doing internships with EQLT this spring.

The trail project connecting the North Brookfield Town Forest to Wendemuth Meadow is well on its way with an anticipated opening day in springtime. As of now, the potential interpretive trail is mapped and flagged and students are putting together an informational brochure and signs to provide an educational aspect to the scenic nature walk.

With all of these projects underway, the time will fly by and Reshma's first winter in Massachusetts will be one to remember. ■



Reshma demonstrating how the fitness equipment works at the Gilbertville Fitness Trail



NIGHT VISITORS continued from page 1

The Golden Borer Moth (*Papaipema cerina*) is rare in Massachusetts and throughout the country. The Golden Borer Moth prefers a complex mosaic of wetland and upland habitats, and it feeds on bottle-brush grass. That combination of habitat is found on the Klassanos property. A few pockets of bottle-brush grass are found on the talus slopes of the Hyde Woodland Preserve. Brian's survey from 2014 found these moths on several nights last fall, but this year they didn't reappear. Regardless, Brian is now growing bottle-brush grass and will plant them to expand the quantity of food for the Golden Moth Borer. Insect populations do fluctuate annually; hopefully, they are still in the area, so the plan is to keep looking.

These aren't the only exciting creatures Brian has found in the night. There's the Pink Sallow Moth, with its bright, reddish-pink wings that can be found in sandplain pitch pine and scrub oak barrens. We can't forget the Pitcher Plant Borer (*Papaipema appassionata*). These moths do just that, the larvae

bore into and feed on pitcher plants. With only a few documented populations in Massachusetts these moths are designated as threatened.

Brian has taken thousands of photographs and identified only a fraction of those at this point. Who knows what else he's documented that could be rare or unusual?

Brian is not taking any chances, he's using his nursery background and existing equipment to germinate all kinds of plants that these and other moths and butterflies need. Right now he has over 3,000 scrub oak acorns vernalizing (cool, damp storage) for spring. Over 25,000 seeds of wild lupine were broadcast this summer at the nearby wildlife management area. Brian is trying to grow wild indigo too. While you can't guarantee that the moths and butterflies will come, it sure does help to have the plants these species depend upon easily accessible and dense enough to sustain the moths and butterflies. ■



Pine Barrens *Zanclognatha*
(*Zanclognatha martha*)



Golden Borer Moth
(*Papaipema cerina*)



Pitcher Plant Borer
(*Papaipema appassionata*)

All images courtesy of Brian Klassanos

LIGHT POLLUTION AND MOTHS

Insect fact sheets share information about insect lives, including distinguishing features, habitat preferences and sometimes include a list of reasons for their declining populations. It's easy to imagine how reducing available habitat or use of pesticides negatively affects moths, but light pollution is more puzzling. How does turning the outdoor lights on cause problems?

Moths, along with many other insects are attracted to lights. That's clear whenever the porch light is on during a summer night.

One concern is that by flying around an outdoor light, the moths are not doing other important moth activities – like feeding or mating. This means they'd be less likely to produce eggs and therefore we'll have fewer moths in coming years. Then, by spending the night flying around the porch light it could make the moths disoriented and tired, easy pickings for other hun-

gry animals. Thus decreasing the number of adult moths each day the lights at night shine.

It turns out that the color wavelength from the light bulb also has a big impact. Some researchers suggest that switching to LED bulbs that produce single wavelengths of light may reduce the impacts on moth populations. Other suggestions include lower lighting intensity, targeting the light beam so there is less over-spill, and use lighting for shorter periods of time, when it's actually needed.

Outdoor lighting is important for many reasons. At a personal level, decreasing the negative impacts to moths and other wildlife can be as simple as turning off the lights before going to bed, or putting them on motion detectors, and changing to energy efficient LED bulbs. Making these changes will help the wildlife, and also make it easier to see the stars! ■

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NIGHT VISITORS



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UPCOMING EVENTS...

JANUARY...

Saturday, January 23rd, 11:00 AM to 4:30 PM

Wildlife Tracking with David Brown, 120 Ridge Road, Hardwic: The walk will be led by well-known tracker-naturalist David Brown, whose experience finding and interpreting New England wildlife spans nearly three decades. Dress for spending the afternoon outdoors and bring a brown bag lunch. Inclement weather date is Sunday, January 24th. This workshop is co-sponsored with the Ware River Nature Club.

Tuesday, January 26th, 6:30 PM to 7:30 PM

Current Use Property Tax Workshop, Palmer Public Library, 1445 North Main Street, Palmer: Join Kate Marquis and Doug Hutcheson, our Mass. Service Foresters, as they share tips and insights about the state-wide tax assessment programs for woods and farms. This workshop is sponsored by the MassConn Sustainable Forest Partnership.

FEBRUARY...

Thursday, February 25th, 5:00 PM to 7:00 PM

Book Discussion of *American Canopy*, by Eric Rutkow, EQLT Offices, 120 Ridge Road, Hardwick: This historical non-fiction account details the importance of American trees and the role they played in the development of our country; from use as masts in the British and French Navys to affecting climate change through carbon sequestration. A light supper will be shared during the discussion.

MARCH..

Sunday, March 20th, 2:00 PM to 4:00 PM

It's a Bee's Life, 120 Ridge Road, Hardwick: We will learn about the bees in our lives and take a hands-on approach to improving places for them to live in our communities. Come make a difference and learn from local experts.