



The
NATURALISTS CLUB
 NEWSLETTER

Springfield Science Museum at the Quadrangle, Springfield, Massachusetts

October to December Calendar of Events

OCTOBER

- 7 Saturday Flora of Fens and Freshwater Ponds – Quiet Water Paddle, *Winsted, Connecticut*
- 15 Sunday Big Pond Kayaking or Canoeing, *East Otis*
- 18 Wednesday OCTOBER MEETING: Costa Rica, A Naturalists' Paradise
- 22 Sunday Quabbin Hike, *New Salem*

NOVEMBER

- 15 Wednesday NOVEMBER MEETING: The Four Seasons
- 18 Saturday Potholes and Waterfalls – Hike at Noble View Outdoor Center, *Russell*
- 25 Saturday A Peaked Mountain Hike – Hike Away Your Thanksgiving Holiday, *Monson*

DECEMBER


- 3 Sunday Hiking the Chicopee Center Canal & RiverWalk, *Chicopee*
- 9 Saturday Tekoa-Montgomery Trail, *Westfield*
- 9 Saturday An Evening with Naturalists, *Hampden*
- 10 Sunday Annual Late Fall Quabbin Hike, *Belchertown*
- 20 Wednesday DECEMBER HOLIDAY MEETING



The heat of autumn is different from the heat of summer.
 One ripens apples, the other turns them to cider.

~ Jane Hirshfield

NATURALIST'S CORNER

 Love the trees until their leaves fall off, then encourage them to try again next year. ~ *Chad Sugg*

Why are Tropical Forests so Much More Diverse than Ours?

Our October meeting will be about Costa Rica and will provide a glimpse of what a naturalist is up against in studying the forests there. Forests of Costa Rica have many more species than do our forests here in Massachusetts, which is to say they are vastly more biodiverse.

Let's start with the trees. It is possible to learn the names of all the New England trees in one summer. By contrast, it would take more than a lifetime of dedicated study to learn to differentiate all the trees found in the tropics. In Alaska there are only about 15 tree species. Here in New England we have about 100 tree species. In the tiny country of Costa Rica there are over 2,000 different tree species! The farther away from the equator you travel, the fewer different kinds of trees you find. What makes this distance such a factor in biodiversity?

The key is the angle of the sun and the resulting climate it produces. Near the equator the sun is nearly overhead at noon every day, also rising about 6 a.m. and setting at 6 p.m. every day of the year. Thus, there are no long days of summer, so temperatures are not too hot and, since there is also a 12-hour night, there's plenty of time to cool off. Daytime temperatures are routinely in the 80s, with nighttime in the 60s, summer and winter alike. In essence, there really is no summer and no winter; rather, seasonal variation is marked by precipitation – a wet season and a dry season.

In New England, where the angle of sunlight varies a great deal across seasons, plants have evolved to deal with a broad spectrum: freezing temperatures, 16 hours of darkness in winter, and summertime temperatures that can top 100F due in part to midsummer's 16-hour day length. Few species are capable of thriving in such extremes. To maximize their use of summer sunshine and yet not be harmed by winter's intense cold, many trees here have evolved to lose leaves in the fall, then go on to sprout leaves again when warmer conditions return in spring.

In short, life for trees and other plants sounds much easier in the tropics than farther from the equator. However, favorable tropical climates foster greater competition. When there is competition, living organisms attempt to find new niches where they compete better. It is this trend that leads to the emergence of new species.

Here at home, pollen in the air in springtime is enough to turn our parked cars yellow and causes many to sneeze. By contrast, in the tropics, those with allergies need not worry about windborne pollen. Tropical forests are so diverse that one tree blooming in a forest may stand a mile or more away from the closest individual of the same species, so over such distances wind is not an effective way to share pollen. Amid so many different species and with conspecifics spread over such long distances, how is a tree ever to find a mate and reproduce?

Pollinators are part of the answer. To transfer pollen with the help of an insect, bat, or bird, a plant species must both produce attractive flowers and somehow ensure that the pollen makes its way to a conspecific some distance away. Over many generations, tree species have fine-tuned their gifts to pollinators, ensuring that pollinators will seek out multiple trees of the same species. This way, trees can have sex by proxy, wasting much less pollen than if pollen were simply released to the winds. As different tree species in a diverse tropical forest have driven different drives a pollinator species to diverge from their original forms, we now also have a great biodiversity of insects, bats and birds! Diversity fosters diversity.

In the midst of all this plant diversity, there is also a constant battle for light and nutrients. To compete, tropical trees must grow fast. When a tree falls in the forest, there follows a contest to claim a newly available spot in the sunshine. The *Cecropia* tree grows extremely fast, in an attempt to shade out the competition. It grows so fast, however, that it has little energy left over for defensive strategies. However, since it happens that *Cecropia* trees have hollow stems Azteca ants like to call home when the plant is attacked by an herbivore, the ants emerge to defend the *Cecropia*. Natural selection, working for selfish interests of each party, has resulted in a system that benefits both.

Growing fast is not the only way to grab sunshine necessary for photosynthesis. The Matapalo, or Strangler fig, provides food in return for birds' help in distributing its seeds. Birds eat the fruit of the tree, including its tiny seeds (think fig bars!). The birds then defecate on another tree and the seeds stick there, germinating high up in the forest canopy. The growing plant sends out aerial roots which grow slowly down to the ground, eventually finding nutrients that speed up its growth upward and around the host tree. This strategy is a key advantage in the crowded forest, for the young tree does not have to build a sturdy trunk to reach and compete for sunlight. Things do not end so well for the existing tree, though. As the new tree grows, it strangles its host and goes on to become a robust tree built from the top down.

Just as accessing sunlight requires competition and adaptation, so too does acquiring nutrients. Here in New England, a tree falls over and takes years, even decades, to rot. Forest soil is deep and rich from composting leaves, branches and corpses of wildlife. If our forest is logged, trees grow back in - slowly. By comparison, tropical soils are very thin since everything is recycled much faster and the more abundant rain leaches nutrients from the soil. Where our forest humus may measure feet deep, tropical soils can be as little as 2 inches deep. Both ecosystems have fungi excellent at recycling material for use by the living, but in the tropical setting fungal mycelia process everything faster, leaving nothing as a storehouse for future use. Plants that grab this reserve first are the ones that survive. Since nutrients are locked in the living trees and not in the soil, when the land is logged all the nutrients go onto the logging truck; barren land is left behind.

There has been an outcry against logging of rainforests that support an incredible biodiversity impossible to duplicate elsewhere on the planet, also because when rainforest trees photosynthesize, they take up carbon dioxide, slowing the gradual warming of the planet. Since a tropical rainforest breeds a complex biodiversity that is not yet fully studied or understood, you always hear protests against unknowingly causing extinction of a plant that might have cured cancer.

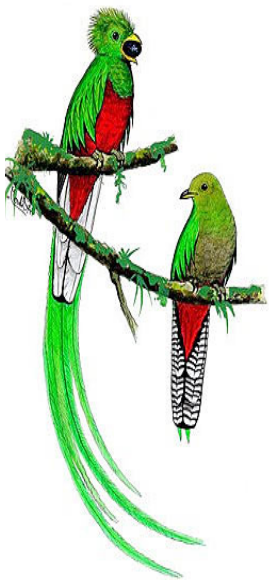
Everything in a tropical forest is dynamic, as organisms devise new ways of surviving, reproducing and evolving in the fast lane. Complexity, borne in a climate ideal for growing, led to competition for resources. Competition has made for diversity, which has in turn fostered more diversity. Tropical forests are complex systems of interdependencies we must work to understand and preserve before they've unwittingly been destroyed.

~ Sonya Vickers ~

ANNOUNCEMENT

Naturalists' Club Trip to Costa Rica!

April 8 through 15, 2018



Join us for a trip to the tropics! I have made arrangements with our friends in Fortuna, Costa Rica to reserve their entire 10-room bed and breakfast for the first three nights of our Naturalists' Club trip. Together, we have planned a set of activities that includes birding, hiking around the volcano, swimming in a hot spring, a river trip up the Caño Negro to see monkeys and other wildlife, night walks to see sloths and frogs, and walks on hanging bridges, where you can experience the diversity of the forest canopy. We will also travel to and stay overnight at Monte Verde, in the highlands, where rare birds such as the Resplendent Quetzal can be found. A private guide will bring us through the reserve. All transportation within Costa Rica is included. You can arrange your flight to San Jose (cost not included) if you wish, or I can arrange it for you. Our trip back to the airport hotel in San Jose will stop at Sarchi, an artists' town. Be sure your passport is up to date: Travelers to Costa Rica in April must have passports that expire no sooner than six months' time. Costs of the Costa Rican land portion, including transportation, lodging, activities, total \$1025. Flight costs are to be paid separately, and are estimated at \$700-\$1,000. To reserve your spot on the trip, please send \$200 check, made out to The Naturalists' Club, to Sonya Vickers, 352 Bennett Rd, Hampden MA 01036.

Flora of Fens and Freshwater Ponds – Quiet Water Paddle, Winsted, Connecticut

Saturday, October 7 from 10 a.m. to 3 p.m.

Leaders: Tom and Nancy Condon

Registration: Please contact Nancy (413-297-0778; spiderwoman@russellma.net).

Meeting place: Blandford Post Office, Route 20, Blandford

Join us for a pleasant, easy paddle on Wood Creek Pond in Connecticut’s northwestern corner. The shores of this mile-long lake are heavily forested, and the red maples and other deciduous trees may be turning by now. The pond itself is thickly vegetated and will give us ample opportunity to learn some of the common aquatic flora like bladderwort, watershield, pondweed and more. The northern end of the pond is quite thick and it will be entertaining to wind our way among tree stumps to examine plants in the red spruce Holleran Swamp, a true fen. Here we’ll look for carnivorous

plants such as pitcher plants and butterworts. After our paddle, we’ll treat ourselves at The Southfield Store for a special goodie or hot beverage. Bring your boat and paddling gear, lunch, water, and be sure to dress for the weather.

Big Pond Kayaking or Canoeing, East Otis

Sunday, October 15 from 2 to 4 p.m.

Leaders: Dave and Debbie Lovejoy (413-848-2047)

Registration: Not necessary.

Meeting Place: Otis State Forest boat launch site.

Take a right off Route 23 near the center of East Otis, 0.3 miles west of Hall’s store.

Big Pond and its slow-moving outflow channel provide a nice setting for a quiet paddle, with the opportunity to do some birding, observe beaver (at least in previous years), and examine plants along the shore. Light rain will not cancel this trip, but call the leaders if unsure.



Dancing of the autumn leaves on the surface of a lake is a dream we see when we are awake! ~ Mehmet Murat Ildan



Costa Rica, A Naturalists’ Paradise

Wednesday, October 18, starting at 7 p.m.

Speaker: Sonya Vickers

Tolman Auditorium, Springfield Science Museum

Did you see the announcement for the April trip to Costa Rica? At our October meeting, Sonya will describe some of the opportunities for naturalists to explore this very diverse ecosystem. She has visited Costa Rica many times and has photographed and studied its tropical biology, shaped by the geology of the country. This Central American country just north of Panama is less than 100 miles wide from the Atlantic to the Pacific. Costa Rica, the size of West Virginia, has more species of birds than all of North America and, though occupying only 0.1% of the land mass of the planet, has 5% of Earth’s biodiversity. The country has a strong democracy, ranks higher than the United States for literacy rates, and offers free health care and education through college. A leader in conservation, Costa Rica has set aside 25% of its land for National Parks. The country has set a goal to be carbon neutral by 2021. Only 8 degrees north of the equator, Costa Rica has temperatures much less extreme than they are at home, ranging from the high 60s to the low 80s year-round. Costa Rica never gets as hot as Florida, nor as cold! Join Sonya for this program, featuring her photographs of this biodiverse tropical paradise.

Quabbin Hike, New Salem

Sunday, October 22, starting at 10 a.m.

Leaders: Dave and Suzy Gallup (413-525-4697)

Registration: Please call Dave and Suzy.

Meeting Place: CVS Plaza near the junction of Routes 9 and 202, Belchertown

Join us for a wonderful October hike at the northwestern side of Quabbin (Gates 25-26), one of the area’s most beautiful locations. From this northern edge of the reservoir, one can look across the calm

water and spot a string of small islands. We will make a loop along an old road through mixed hardwood forest with wonderful October foliage. Bring a lunch or snack. The hike is about three miles. After the hike, we can go into the Town of New Salem – a wonderful little village that looks just as it did in the 19th century. From town, we will have the option to take a second, brief hike to some beautiful vistas that you will love! Rain cancels.

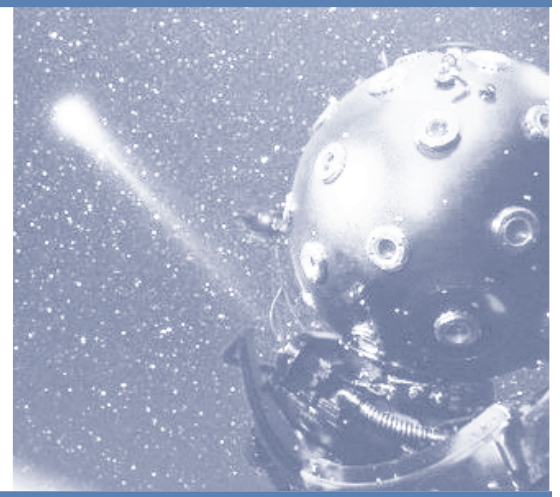
NOV.
Meeting**The Four Seasons**

Wednesday, November 15, starting at 7 p.m.

Speaker: Jack Megas

Tolman Auditorium, Springfield Science Museum

Eighty years ago this month, Frank Korkosz, with help from his brother, John, and from students at Chicopee High School, finished construction of the planetarium projector here at our own Springfield Science Museum. Today, it is the oldest American-made projector in existence. We will celebrate the anniversary of the projector with a tour of the constellations through the seasons. After this program, you'll be prepared to find the brightest star groups throughout the year.

**Potholes and Waterfalls – Hike at Noble View Outdoor Center, Russell**

Saturday, November 18 from 10 a.m. to 1 p.m.

Leaders: Tom and Nancy Condon

Registration: Call or email Nancy (413-297-0778, spiderwoman@russellma.net)

Meeting Place: Upper parking lot at Noble View, 635 South Quarter Road, Russell

This 3.6 mile route in the woods of AMC's Noble View is a somewhat strenuous hike. Most of the route we will take is moderate, except where we descend over some rocky areas to see potholes of glacial origins, created by the scouring effect of swirling sediment in fast-moving water. We will pass remnants of days gone by, including cellar holes, spring, stone walls, and dammed creeks. Be sure to wear sturdy boots. Bring hiking gear, plenty of water, plus a lunch to eat the picnic tables, where we'll sit to enjoy a 50-mile view at the end of our hike.



If months were marked by colors, November in New England would be colored gray.

~ Madeline M. Kunin

A Peaked Mountain Hike – Hike Away Your Thanksgiving Holiday (say goodbye to the pie), Monson

Saturday, November 25 starting at 10 a.m.

Leaders: Dave and Suzy Gallup (413-525-4697)

Meeting Place: Burlington Coat Factory at the shopping mall, Allen and Cooley Streets, in Springfield

Join us for a hike and walk off those calories from Thanksgiving dinner! We will hike to the summit of Peaked Mountain with its incredible vistas of the valley

below. From the summit, you can see Mt. Monadnock in New Hampshire! This is a moderately strenuous hike. Bring a lunch and plenty of water. Sturdy hiking shoes are recommended, and do not forget your binoculars! Rain cancels.

Hiking the Chicopee Center Canal & RiverWalk, Chicopee

Sunday, December 3, starting time T.B.A.

Leader: Carole Dupont

Registration: Please contact Carole (413-896-0124; carole0136@gmail.com)

The Chicopee Center Canal & RiverWalk offers a short, flat, pleasant route in Chicopee. A rail line repurposed into a walking and biking trail, the pathway follows the slow-moving canal and is lined with tall elm, maple, and sycamore trees. Signs along the way tell the history of the canal, and benches provide places to stop and enjoy the scenery. The Chicopee Conservation Committee has approved a program to replace various invasive species, especially Japanese Knotweed – one of the most stubborn and destructive invasives along the RiverWalk – with native, low maintenance vegetation that will help to stabilize the slopes. We will walk about 3 miles, roundtrip, along the former industrial railway, passing the old Uniroyal property, a 28-acre manufacturing site dating back to the late 1800s. Along the way, we will keep watch for any lingering water birds or other wildlife. An early snowfall will turn our walk into a snowshoe event. Bring your binoculars, water, snacks, hiking boots, and dress according to the weather conditions.

Tekoa-Montgomery Trail, Westfield

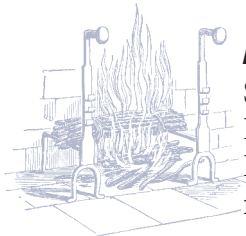
Saturday, December 9 from 10 a.m. to 2 p.m.

Leaders: Tom and Nancy Condon

Registration: Please contact Nancy (413-297-0778, spiderwoman@russellma.net)

Meeting Place: McDonald's, off Elm Street (Route 20) in Westfield

This late fall hike will take us along Moose Meadow Creek, which runs along the foot of Tekoa Mountain. We will ease our way up the valley, along a gravel road – a fairly easy hike. We'll see the remnants of a musket factory built by President Grover Cleveland's great-grandfather. Then we'll check out Tekoa Reservoir and continue up the hemlock-lined creek bed, looking for wildlife. Along the way, we'll learn some of the interesting ways that plants and animals prepare for winter. After we've hiked about 2 miles, we'll turn back, hiking around 4 miles total. Wear good hiking footwear, dress for the weather, bring a lunch, water, and a hankering to explore.



An Evening with Naturalists, Hampden

Saturday December 9, starting at 7 p.m.

Hostess: Sonya Vickers

Registration: Please call Sonya for directions (413-566-3406).

Each December we gather together to renew friendships and share what we have seen and learned

in the past year. The hearth will be warm against the December winds and there will be desserts and refreshments to share, so let us know if you would like to bring something. Directions will be provided when you call to register. The registration list will be used to notify everyone if extreme weather cancels the event.

Annual Late Fall Hike at the Quabbin, Belchertown

Sunday, December 10 starting at 10 a.m.

Leaders: Dave and Suzy Gallup (413-525-4697)

Registration: Please call Dave and Suzy

Meeting Place: CVS Plaza, near junction of Routes 9 and 202 in Belchertown.

It is that time of the year again, folks! Our destination is Gate 13 or 15, which takes us on a wonderful hike with great views of the northern section of the Quabbin – lots of stone walls and farm sites. There is some chance we will see eagles and hear loons! Previously, we've seen moose tracks on the Quabbin's sandy beaches. This is a great hike in one of the most beautiful areas of explore. Bring your lunch, hot drinks, and binoculars. Dress appropriately for the weather and wear sturdy hiking boots. Rain cancels.



I heard a bird sing in the dark of December. A magical thing. And sweet to remember. We are nearer to Spring than we were in September. I heard a bird sing in the dark of December. ~ Oliver Herford

DEC.
Meeting

HOLIDAY MEETING

Wednesday, December 20, starting at 7 p.m.

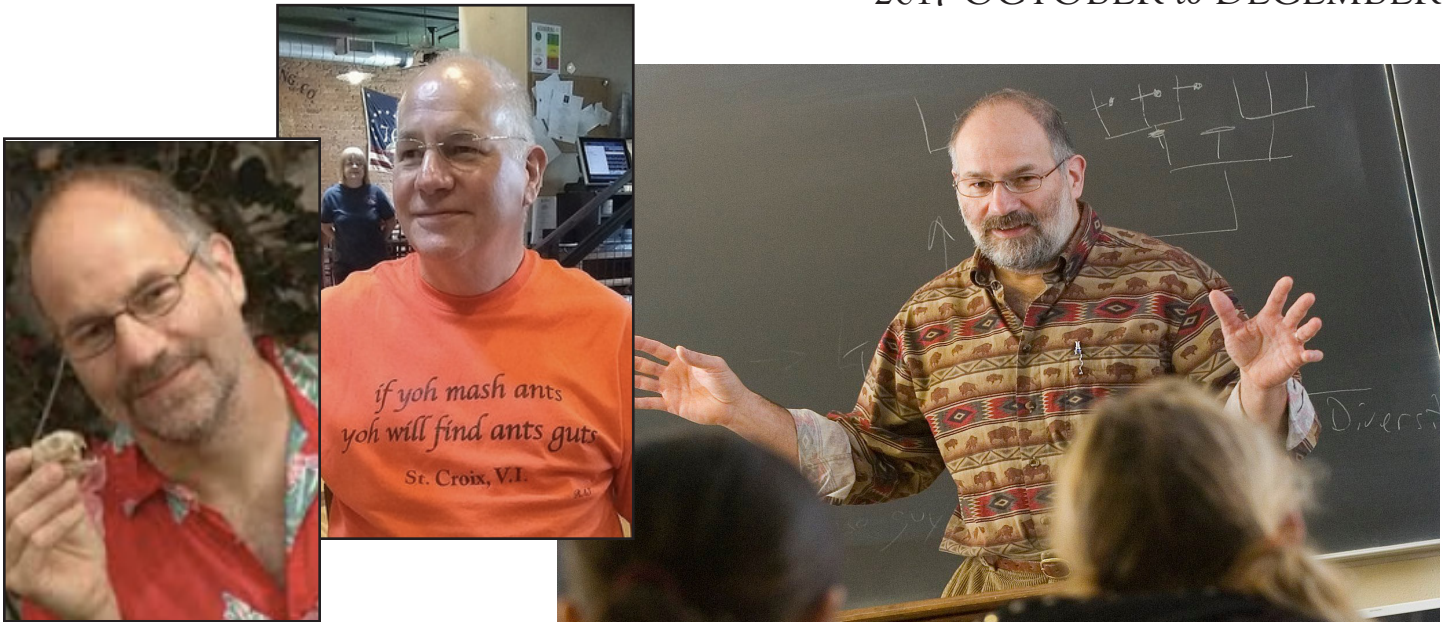
Springfield Science Museum, Tolman Auditorium

Presenters: You!

Emcee: Nancy Condon 413-297-0778

Our annual holiday meeting is an opportunity for you to share your most memorable and interesting nature and travel experiences with other club members. Have you visited someplace you would recommend to others? Do you have photos of Naturalists' Club events from this past year? We want to hear from you. Show us some of the highlights, by way of slides, PowerPoint, or photo album. Presentations may be no longer than 10 minutes in length.

This year we will do something new – the “Good Read” table. If you have enjoyed a good book having something to do with the outdoors or natural science, and would like to recommend it, bring it in to display. For those willing to loan a book out to other club members, identification tags will be supplied so loaner and borrower can swap contact information. You may also just display a book that you enjoyed, without the option to loan. Either way, look through your library and try to bring at least one title to display. Bring a holiday dessert to share during the social hour so we can enjoy dessert while discussing intriguing books with other club members. Let's celebrate this first day of winter and the last day of Chanukah together. Please call Nancy to get on the roster for presentations.

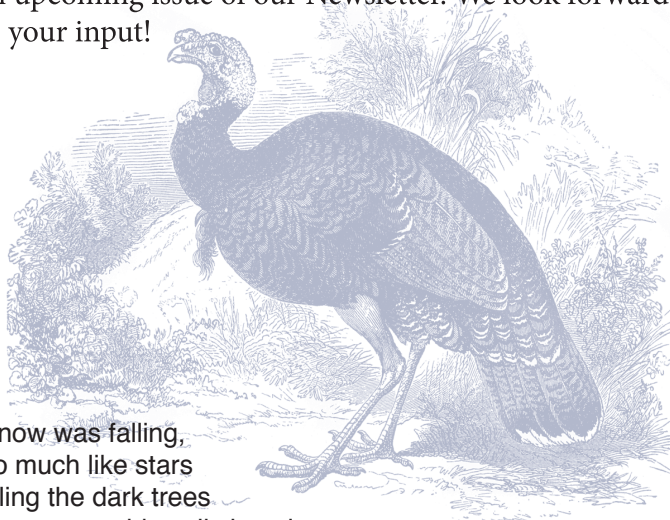


In memory of Buzz Hoagland

Buzz Hoagland passed away suddenly in mid-July, while vacationing in Vermont with friends. He was the editor as well as the graphic designer of the Naturalists' Club Newsletter from 1995-2002. He also served as Club Treasurer and maintained the server that supported the Naturalists' Club website. Buzz was a member of the Biology Department at Westfield State University for 23 years. He received his Ph.D. from the University of Vermont in mammalogy and taught a variety of courses at WSU, including genetics and research methods. Buzz also served as Biology Department chair and President of the Faculty Union. He was a strong proponent of the use of computers in education, and conducted a long-term study of mongoose on St. Croix in the U.S. Virgin Islands.

Do you have a book to recommend?

Have you read a great book that could be of interest to others in the Club? Are you interested to lead a book discussion? Please email us at natclubnewsletter@gmail.com so that your recommendation can be included in an upcoming issue of our Newsletter. We look forward to your input!



Snow was falling,
so much like stars
filling the dark trees
that one could easily imagine
its reason for being was nothing more
than prettiness. ~ Sarah Addison Allen

Book Recommendation

The Forest Unseen: A Year's Watch in Nature
by David George Haskell

Tibetan monks view the universe through their poured-sand drawings. For his own observation of the universe, author David Haskell selected a one-square-meter patch in an old growth Tennessee forest, which he terms his "mandela". There, he observes the biological complexities of living organisms, as he spends one year visiting his mandela each week, observing what binds the tiniest microbes to the largest mammals in ecosystems that have cycled for millennia. Every chapter is a fascinating story about trees, salamanders, flowers, bacteria, birds, ferns, snails, ephemerals, bees, and nearly every other imaginable organism that exists in nature. Haskell has a wonderful writing style. Moreover, he is so knowledgeable and his writing so inspirational that, after reading this book, your next walk in the woods will be with an entirely new and enjoyable perspective.

~ Recommended by Carole Dupont

THE NATURALISTS' CLUB

MEMBERSHIP

The fall of the year is the traditional time to renew membership in the Club. Members who have opted for the electronic newsletter will receive an email indicating membership status. Members who receive the paper newsletter and have '17 -18 (or later) on the mailing label are paid up for (at least) the current year; a '16 -17 label indicates that renewal is due now.

To establish or renew membership, please send information/payment to:

Dave Lovejoy
The Naturalists' Club
Department of Biology
Westfield State University
Westfield, MA 01086

If your address and contact information have not changed, the form below need not be completed. But please do email us so that we can add your electronic address to our records. Thank you!

MEMBERSHIP LEVELS

- \$15 per year for Individual or Family Membership
- \$25 per year for Supporting Membership
- \$50 per year for Sustaining Membership
- \$300 for Lifetime Membership

Renew your membership

Name _____

Address _____

Phone Number _____ Email _____

Do you opt for electronic delivery of the Naturalists' Club Newsletter? Yes _____ No _____

Requests for programs/trips: Please send information per the above to: Club Treasurer, Dave Lovejoy, Department of Biology, Westfield State University, Westfield, MA 01086



The NATURALISTS' CLUB was founded in 1969 for the purpose of actively promoting knowledge, appreciation, and preservation of our natural environment.

It is an all-volunteer non-profit organization.

Education is a main focus of The NATURALISTS' CLUB.

Programming, with an emphasis on local natural history, is designed to create camaraderie among people of diverse interests through experiences deepening their appreciation of nature.

Activities are geared to acquaint the layperson with the natural world, mostly through field trips. Monthly meetings are held at the Science Museum at the Quadrangle in Springfield, Mass. Most field trips and programs are free.

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