

# Fredericksburg Nature Notes



## Newsletter of the Friends of the Fredericksburg Nature Center

June, 2023 Volume 4 Number 6

<http://fredericksburgnaturecenter.com>

### Editor's Musings: **Lonnie Childs**

Dear Friends of the Fredericksburg Nature Center,

The recent rains have offered new energy to the vegetation at the park. The trails are replenished with some late spring wildflowers, and the creek is flowing strong. Take a walk on the Live Oak Wilderness back to the turnaround point where Patti Guin has refreshed the Cactus and Hummingbird gardens and created a nice spot for quiet repose. Rest on the granite bench dedicated to Sharon Rodriguez who previously tended the garden and passed away last year. It's all designed to make you slow down and reflect.

Next, you should venture over to the Pollinator Garden near the swimming pool, and experience the full glory of spring. The flowers are spectacular, but beyond that, the copious butterflies and bees are reveling in beds of pollen and slurping up the nectar. Now slow down and peer into the vegetation, and you will discover gorgeous (ok, some are ugly) creeping caterpillars preparing themselves to become butterflies and moths. Look closer, and you may find some eggs or pupae. In presenting all acts of this great show, the PG will remind you about the wonders of one of the most spectacular transformations in the natural world—the metamorphosis of Lepidoptera. Please bring the kids out to experience the grand show also.

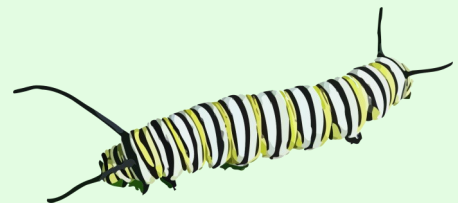
This is why Gracie Waggener and her dedicated team of gardeners toil in the sun and heat—to provide us all with this experience which can transform us too, at least spiritually. Thanks to the gardening team, and our photographers who captured much of it for the newsletter—Patti Guin, Dot Maginot, and Deb Youngblood. And I should mention that you too can come out and be part of this team!

**Happy Nature Trails!**

*Lonnie*

### In this issue:

- **FFNC Activities at the Park**
- **June Program: Native Bees and Bee Habitat**
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- **Avians at FNC**
- **Blumen, Buzzin', Crawlin', and Flutterin' at the Pollinator Garten**
- **Feature Story: Learn to Like Lichens**





**OUR MISSION STATEMENT:** *“To enhance, protect and interpret the natural ecosystems of the Texas hill country while providing educational and quality of life opportunities for members of the community and visitors.”*

## FFNC Volunteers at Work



Photo by Patti Guin

(Left) **Laura King** proves that working in the Pollinator Garden makes for a happy gardener!

(Below) **Tom Musselman and Frank Garcia** pose while tidying the perimeter of the Pollinator Garden.



Photo by Deb Youngblood

# Volunteer!

### Tuesday Fundays at FNC are in full Spring swing!

We continue to perform **Trail Work** with ongoing maintenance and improvement projects. **Gardening Activities** are in full swing with cleaning, trimming, and weeding.

**Typical tasks** involve gardening skills and trail maintenance, but no experience is necessary. Use it as a learning opportunity. Work in whatever area you choose for as long as you choose. We work some and have a lot of fun outside in the beauty of nature. It's good exercise for the body and great therapy for the soul.

If you would like to join us at the park, we would love to have you!

Work sessions are typically scheduled for **Tuesday at 8:30am**.

Contact **Gracie Waggener** at [gwaggener@flow-apps.com](mailto:gwaggener@flow-apps.com) to receive a weekly email notification about scheduled work tasks for the coming week.





*"The more that you read, the more things you will know. The more that you learn, the more places you'll go."*

**Dr. Seuss**

## Story Walk was a Great Success!



**Russell Hahn** installs a reading panel.

On Memorial Day weekend, families visiting the Pollinator Garden were treated to a Story Walk. As they strolled the garden, children could read the story of *"Miss Lady Bird's Wildflowers"* as successive chapters were displayed on panels. As a bonus for reading the story, children found painted rocks to carry home as a keepsake. Reading in nature about nature—what a great combination!

Thanks to Gracie Waggener, Mary Ellen Terrell, Patti Guin, Laura King, Russell Hahn, and others for creating a memorable Story Walk that encourages our youth to read and enjoy nature.

# Story Walk



**Story Panel**



*"I'll be doggone."*, it's a rock decorated with Donald Duck!



*"Honey bees make for good honey, but the real work of pollination of our natural habitat is done by our native bees."*

**Polly Apis**

**Our June Program is full of Buzz!**

# IT'S ALL THE BUZZ!

## NATIVE BEES AND BEE HABITAT WORKSHOP

*Sponsored by The Friends of the Fredericksburg Nature Center*



**Presenter: Molly Keck, AgriLife Extension**

**When: June 16, 2023 ; 10:00 - 12:00 Noon**

**Where: AgriLife Extension Office  
38 Business Court, Fredericksburg**

In this workshop, learn about our Native Bees, their preferred habitat, and their importance as pollinators in a healthy ecosystem! This program is open for all ages, but geared for adults and children 12 years and older. **YOU WILL EVEN BUILD YOUR OWN BEE HOUSE!**

Register ASAP for this free program (donations accepted) by emailing Gracie Waggener at [gwaggener@flow-apps.com](mailto:gwaggener@flow-apps.com)

***This Workshop is Approved for 2 Hours of Texas Master Naturalist Advanced Training (AT23-065)***

### ***About Our Speaker***



**Molly Keck** is an Integrated Pest Management Program Specialist with Texas A&M AgriLife Extension in Bexar County, Texas (San Antonio). Molly is a graduate of Texas A&M University with a Bachelor's and Master's degree in Entomology and is a Board-Certified Entomologist and hobbyist beekeeper.

Molly has been working for Texas A&M AgriLife Extension Service since 2005 and specializes in urban and structural entomology, providing pest management and identification programs to Master Naturalists, Master Gardeners, the general public, students, and pest management professionals.





**"What is the good of your stars and trees, your sunrise and the wind, if they do not enter into our daily lives?"**

**E.M. Forster**

## Some Announcements



Check out our Facebook page at **Fredericksburg Nature Center** for the latest information, announcements, and photos. We are live and active again!  
Don't forget to *Like* us.  
Thanks to our Publicity Chairperson, Patti Guin, for bringing us back into the social media universe.

# LIFEGUARDS WANTED!

The City of Fredericksburg is looking to hire lifeguards for the 2023 summer season! American Red Cross Certification for non-certified individuals will be hosted by the City of Fredericksburg as certification is MANDATORY.

### REQUIREMENTS:

- American Red Cross Certified
- Age 15 or older
- Must demonstrate leadership
- Must arrive to work on time
- \*We are willing to work with school and other work schedules!\*

Apply today at [www.fbgtx.org/jobs.aspx](http://www.fbgtx.org/jobs.aspx) or pick up an application at Lady Bird Johnson Municipal Park Headquarters or City Hall.

For more information, contact Hailey Olden at [holden@fbgtx.org](mailto:holden@fbgtx.org)

## Observations Along the Trail



### Stickleleaf or Poorman's Patch

#### *Mentzelia floridana*

is a member of the *Loasaceae* family which typically have striking flowers & bristly or stinging hairs. This species has sticky hairs but does not sting. You can find this species growing on the sandstone bank above Live Oak Creek.

### Pearl Milkweed Vine or Net Vein Milkwine

#### *Matelea reticulata*

is an inconspicuous vine that grows in thickets along woodland edges. It can be found on the upper reaches of Live Oak Wilderness Trail near the Cactus Garden.





## Observations Along the Trail



### **Brown or Black-eyed Susan**

#### ***Rudbeckia hirta***

is growing profusely around the county this year. Indigenous people had many medicinal uses for it.

### **White Prickly Poppy**

#### ***Argemone albiflora***

does have prickly leaves but produces a beautiful bloom that is a copious pollen source. Note that its seeds & stalks can be toxic.



### **Navajo Tea, Slender Greenthread**

#### ***Thelesperma simplicifolium***

Abundant in the lower prairie near the Live Oak dam site.







What do you call a rude bird?

A mockingbird.

## Avians at FNC



Photo by Lonnie Childs

**Goose Yoga anyone?**  
Our year-round residents, **Canada Geese (*Branta canadensis*)**, engaged in their own form of physical exercise in the flow of Live Oak Dam.



Photo by Dot Maginot

### Northern Mockingbird

***Mimus polyglottos*** (many tongued mime)  
They walk, run, & hop on the ground, tail cocked upwards, grabbing at prey on the ground or snatching insects just over the grass.

*Texas State Bird*



## Blumen at the Pollinator Garten



Purple Passionflower *Passiflora incarnata*  
Photo by Dot Maginot



Cowpen Daisy *Verbesina encelioides*  
Photo by Patti Guin



Lemon Beebalm *Monarda citriodora*  
Photo by Lonnie Childs

### The Pollinator Garden is in full flower!

This is just a small sample of the diverse bouquet of blooms currently in full color. After enjoying the flowers, take notice of the butterflies and bees voraciously feasting on the nectar and pollen. Look a little closer, and you will find larval forms of future butterflies crawling and crunching on vegetation preparing for their metamorphic moment. More on [Metamorphosis](#).



Purple leatherflower  
flower & seedpod  
*Clematis pitcheri*  
Photos by  
Deb Youngblood





"Nature always wears the colors of the spirit."

Ralph Waldo Emerson

## Flutterin' & Buzzin' at the Pollinator Garden

Fiery Skipper *Hylephila phyleus*

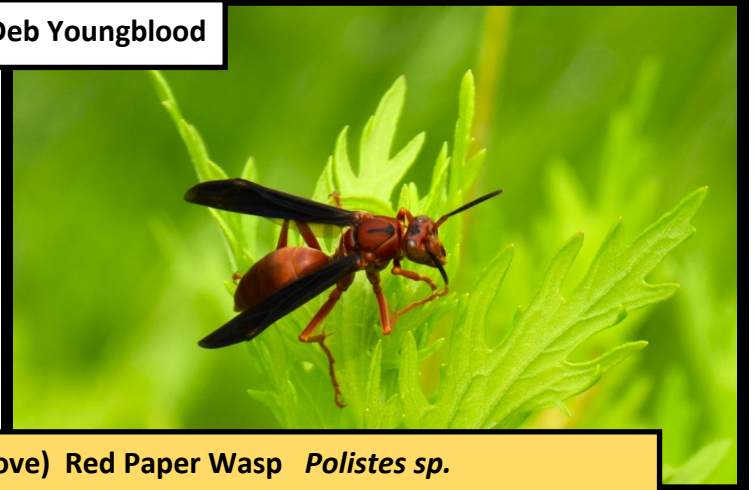


Horace's Duskywing *Erynnis horatius*



Photos by Dot Maginot

Photos by Deb Youngblood



(Above) Red Paper Wasp *Polistes sp.*

(Left) American Painted Lady *Vanessa virginiensis*

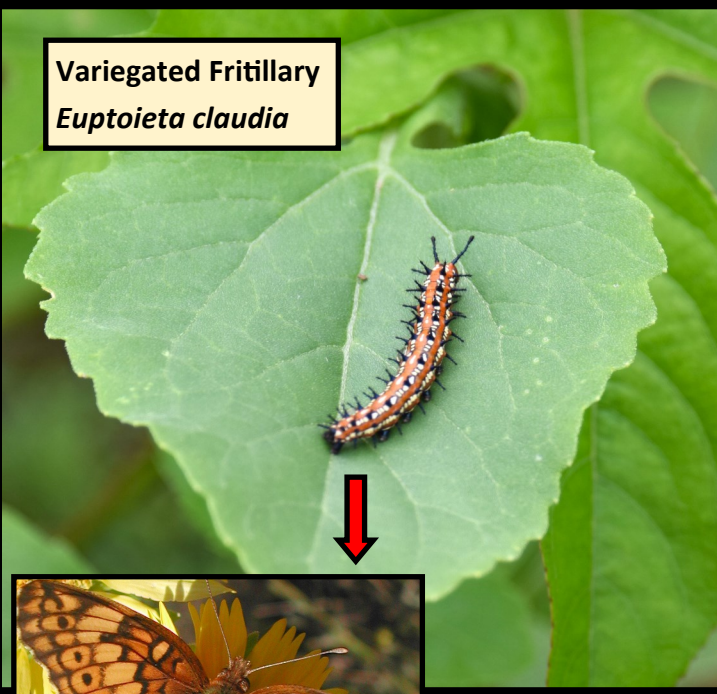
**What is a Pollinator?** A well kept secret in the natural world is that most insects (yes, even butterflies) that visit flowers to harvest pollen are not pollinators but just visitors trying to steal a meal. Most insects have not evolved specialized body parts to capture the pollen for transfer to another flower, or they may only have evolved to be successful with one particular species. Native bees are our best pollinators. Shh! Nobody tell the flowers.

Some flowers have figured it out and evolved floral structures to prevent the taking of their pollen by random visitors. Only their mutualistic insect partners who have evolved specialized body parts to pollinate their species will gain access to their pollen stash. Source: "Nature's Best Hope" Doug Tallamy

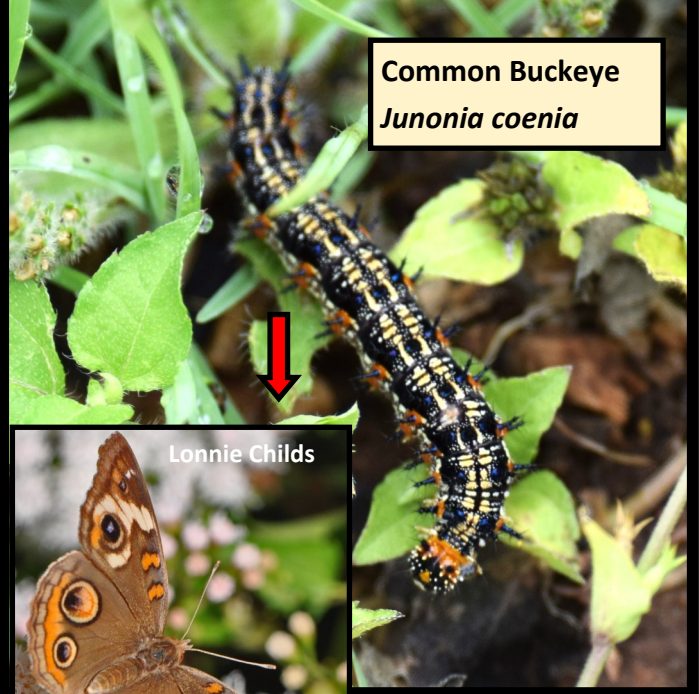


# Butterflies & Moths to Be at the Pollinator Garten

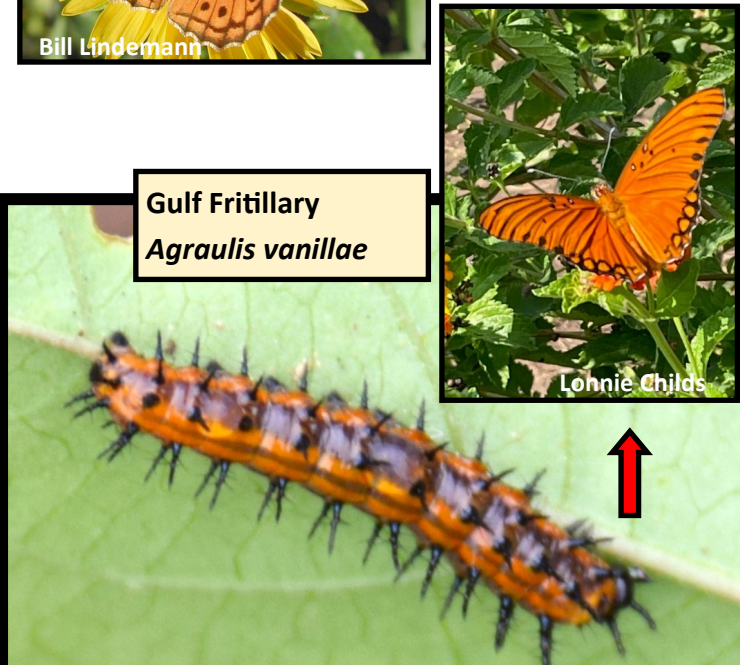
Variegated Fritillary  
*Euptoieta claudia*



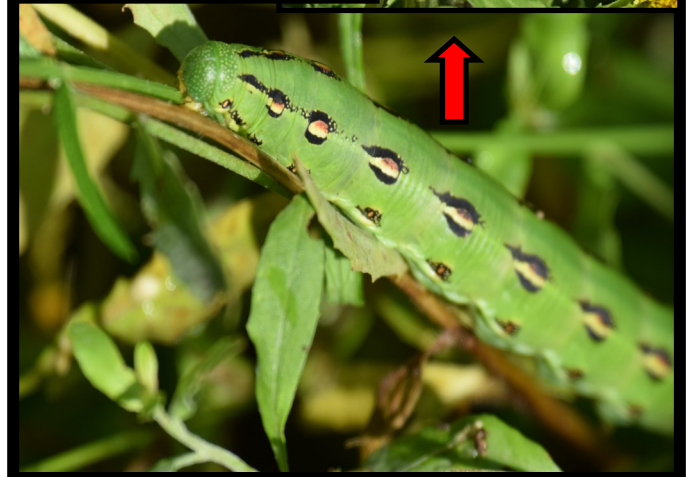
Common Buckeye  
*Junonia coenia*



Gulf Fritillary  
*Agraulis vanillae*



White-lined Sphinx Moth  
*Hyles lineata*



All Caterpillar Photos by Deb Youngblood



**"If you look the right way, you can see that the whole world is a garden."**  
**Frances Hodgson Burnet**

## **Feature Story: Learn To Like Lichens**      **by Lonnie Childs**

When travelling in the natural world, if you look intently beyond the splashier adornments of Mother Nature, you might notice crusty little growths of many hues and forms covering rock, tree limbs, and even on the dirt. These mysterious growths are estimated to cover 6-8% of the earth's surface! Many people refer to them as moss, although the two have no taxonomic relationship, or they believe them to be parasitizing their host tree (not true, they are epiphytic). It's time that you venture into the world of Lichens and learn to "lichen" them.

**What are Lichens?** Lichens are composite organisms composed of part algae or cyanobacteria growing on fungus and living in a symbiotic relationship (i.e. *a condition where two species live in close proximity to each other for part or all of their lives*). But more importantly, their relationship is considered to be a paradigm of Mutualism where the interactions between the algae and fungus are ones in which each organism benefits from their physical structure and relationship.



**Various forms of Lichen on an Oak limb.**

The nature of the mutualistic relations between the various species of fungus and algae is quite complex and extremely varied. Lichens have different properties from those of its component organisms and function like mini-ecosystems. The algae/cyanobacteria conduct photosynthesis and provide sugars for their part while the fungus contributes a filamentous structure, moisture, and other nutrients. One scientist has described it as, "*Lichens are fungi that have discovered agriculture.*"

**Survival of the Mutualistic.** Lichen represent one of the toughest and most durable life forms on earth. They grow on virtually any surface at elevations from sea level to mountainous and can be found in almost every habitat and geographic area on the planet. One of their most resilient qualities is their ability to survive the complete loss of all body water. In scientific experiments, they survived 34 days under simulated Martian conditions in the Mars Simulation Laboratory (MSL) in Germany.

In another 2005 experiment, a specific Lichen species took a ride aboard a Russian spacecraft, and after a 15 day exposure to the vacuum of space, they were still found capable of conducting photosynthesis. Lichen are long-lived and considered to be one of the oldest living organisms with one Arctic species dated at 8,600 years old. I speculate that when the apocalypse comes, living alongside those resilient cockroaches will be colonies of Lichen.





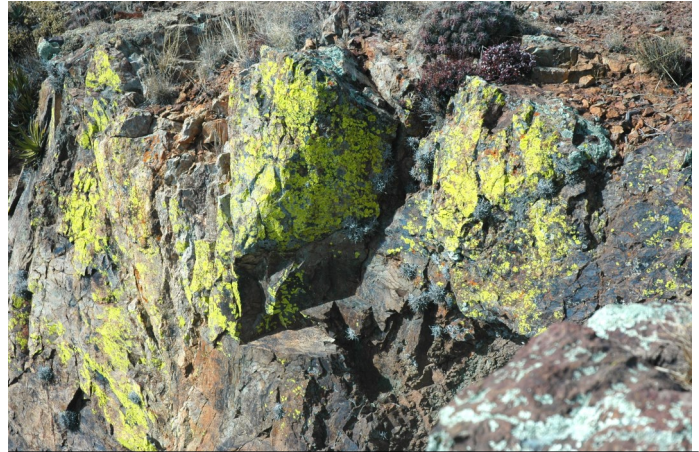
"If you truly love nature, you will find beauty everywhere."

Laura Ingalls Wilder

## Feature Story: Learn To Like Lichens

**Physiology.** I won't try to explain the complicated physiology of Lichens other than what I offered earlier. The vegetative matter of the organism called *thallus* is composed of the filamentous structure supplied by the fungus on which the algae/cyanobacteria grow. The fungal and algal species conjoined within the Lichen are both capable of sexual reproduction, but again the complexity and variation across species are enormous. Lichen can just as easily reproduce vegetatively (asexually), either by a piece breaking off and growing on its own (vegetative reproduction) or through the dispersal of *diaspores* containing a few algal cells surrounded by fungal cells.

**Coloration.** One of the characteristics of Lichen that I find most aesthetically pleasing is their variations in coloration. Go visit Enchanted Rock to appreciate the granite rock faces painted with patches of green, gray, orange, yellow and brown. In the absence of special photosynthetic pigments, Lichens are usually bright green to olive gray when wet, gray or grayish-green to brown when dry. Different colored lichens may inhabit adjacent sections of a rock face, depending on the angle of exposure to light – generally more light equals more color produced by the photosynthetic pigment.



Lichen on a cliff face of the South Rim of the Chisos Mountains. Elevation = ~7,000 ft.

**Forms and Shapes.** The other fascinating and attractive feature of Lichen are the variations in physical forms and shapes. There are variations in growth types within a single lichen species and within a single specimen of that species, and they have some comic names. Presumably, the various forms and shapes have evolved to provide some ecological advantage, and each are stimulated to grow, driven by certain environmental conditions. The phenomenon of form diversification appears to be little understood.

Here are just a few of described forms that you might recognize in the wild. *Fruticose* forms resemble leafless mini-shrubs or trees and are found on our oak branches frequently. *Foliose* describes those growing in 2-dimensional, flat, leaf-like lobes. *Crustose* are crust-like and adhere tightly to a surface (substrate) like a thick peeling coat of paint. *Leprose* represent the powdery form often found on rock faces, and *Filamentous*



Foliose form



**"The goal of life is to make your heartbeat match the beat of the universe, to match your nature with Nature."**

**Joseph Campbell**

## **Feature Story: Learn To Like Lichens**

are stringy or like matted hair. And finally, there is a *Squamulose* form which is composed of small leaf-like scales crustose below but free at the tip

**Taxonomy and Classification.** Are Lichens plants? The easy answer to that question is no, but beyond that, everything is confusing. Lichen are composed of two of three organisms (fungi, algae, or cyanobacteria) each of which is classified in a different kingdom, and none of which are Plantae.

The species names of Lichen generally utilize the species name of the fungal partner to denote it, but that raises confusion as one fungal species may associate with more than one algal species. From there, the confusion grows further. I'll leave it to the scientists to unravel the frayed knot of nomenclature. Here are a couple of more interesting classification facts – there are estimated to be about 20,000 species of Lichen and about 20% of fungal species are associated with Lichen.

**What are Lichen good for?** Believe it or not, these crusty little organisms are quite beneficial in the natural and human world. In Mother Nature's province, Lichens serve as valuable soil builders by chemically breaking down the rock substrate which they inhabit and introducing vital minerals to the surrounding soil. Along with the wind and rain, picture those crusty patches of color on Enchanted Rock slowly quarrying the big rock over the millennia. Lichen serve as food for Santa's reindeer, some Lepidoptera larvae, and squirrels. Since the algal component of Lichen conduct photosynthesis, they also provide environmental benefit as carbon sinks.

Interestingly, humans have found Lichen to be an important cultural resource. They have been eaten as food, in some cultures as a staple and others in times of famine. They make useful red, purple and yellow dyes. In modern times, they can be used to age exposed rock formations (Lichenometry), and they can function as barometers of air pollution, since they accumulate pollutants. Historically, they were also used in traditional medicine, certainly not effectively, but their



**Orange Fruticose form**



**Squamulose Form**





***"In nature, nothing is perfect. Trees can be contorted, bent in weird ways and they're still beautiful." Alice Walker***

## **Feature Story: Learn To Like Lichens**

common name of "Lungwort" in Europe suggested that they could be used to treat lung maladies or may be because the Squamulose form were shaped like little lungs (known as the *Doctrine of Signatures*). Don't count on Lichen to cure your respiratory infection!

My use for Lichen is purely aesthetic and spiritual. I find them beautiful and fascinating to the eye. Appearing as their own little eco-world, they are delicate reminders of how beauty and form can evolve equally with needed function. They represent basic life at its simplest – a substrate to rest on, fungal support for form, add a little water and CO<sub>2</sub>, and absorb energy from the sun to produce food. Finally, dress it all up with some whimsical forms and bright colors just for Mother Nature's delight. Stop and take a look yourself. Learn to like Lichens.

## **Bird Lover Tip of the Month**

So, you love birds - their beauty, watching their quirky behavior, and listening to their melodious song. Maybe you've even chased around the world looking for them. Something about it just makes you feel better and stimulate you to enjoy our natural world.

Perhaps you have struggled to explain to your friends why you are such a bird fanatic. Finally, there is scientific evidence to prove that listening to avian operas is beneficial to your health. You now have an explanation for your bird loving behavior—the Doctor says it's good for you.

Right click [HERE](#) & Open Hyperlink to read all about it in:

***"Why birds and their songs are good for our mental health"***

## **Nature's News of the Weird**



***Plants Make Noise When They are Stressed***

Right Click [HERE](#) & Open Hyperink to Article



*"We can never have enough of nature."*

Henry David Thoreau



Checkered White on Cowpen Daisy  
Photo by Dot Maginot

**Thanks  
for your  
Support!**

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