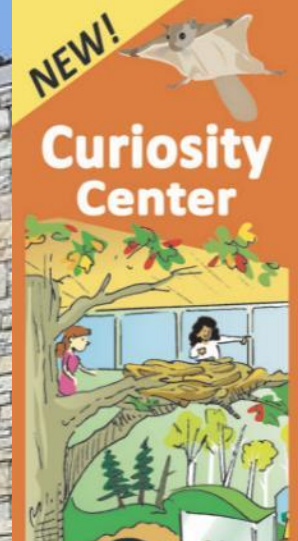




**Emily Stone**

**Naturalist/ Education Director**



- Private non-profit
- Almost no government funding
- Supported by memberships and donations from people like you!



# 50 years old in 2017!

*"I am glad more people are enjoying the beauty of nature—but only if people value the land and treat it with respect can they preserve what they enjoy"*

*On The Land,  
Mary Griggs Burke,  
1999*



# We are an Accredited Museum!

- Only 3% of museums are accredited in the U.S.
- CNHM is one of the 20 accredited museums in Wisconsin.
- CNHM is the only accredited museum in Wisconsin north of Eau Claire.





# Cable Natural History Museum

## Museum Hours:

Tuesday—Saturday  
10 a.m.—4 p.m.

## Summer Extended Hours:

June 30 to August 12  
Sundays and Mondays  
10 a.m.—2 p.m.  
July 4: 9 a.m.—1 p.m.

Please pre-register for classes when it is mentioned in the program description. All registration classes are subject to cancellation due to low registration.

For information and registration visit our online reservation service at [cablemuseum.org](http://cablemuseum.org)!

Scholarships are available for some programs! Just ask Deb!

## 2019 Summer Calendar of Events

**Talon Talk Live Raptor Programs: Tuesdays 1:30-2:30 p.m.**  
Meet the Museum's live education raptors in person! Learn all about the amazing world of birds of prey. June 18 through August 27. Please come early to find a seat. Donations welcome.

**Snake Feeding: Saturdays at 10:00 a.m.**  
June 22 through August 24. Donations welcome.  
Meet Emory and Digger—the Museum's live snakes—and watch them eat a mouse.

**Hatha Yoga at the Museum: Mondays, 8:30-10:00 a.m.**  
Join Joan Shumway for an exploration of yoga asana, whether you are new to yoga or have been practicing for many lifetimes. All ages and stages welcome! Please bring your own mat.  
June 17-August 5. Registration required. Cost is \$80 member/\$100 non-member for the eight week series or \$12 member/\$15 non-member per class.

**The Art of Natural Play: Fridays and Saturdays 10 a.m.-2 p.m.**  
Drop in at the Wayside Wanderings Natural Play Area to explore the trails, play in our treehouse, build a fairy house, and join local artist Donna Post to create make-and-take nature crafts. All ages welcome! Come find us at 43135 Randysek Road in Cable, on Fridays and Saturdays from June 29 through August 10, from 10:00 a.m. to 1:00 p.m. Donations welcome.

is better than fiction. By using science to tell stories, Emily wields a magic that makes the whole world feel more alive.  
7:00 p.m. Pattison State Park. Donations welcome.

**Saturday, June 8**  
**Dandelion Days**  
10 am - 5 pm Wikdal Park, Washburn, WI

**Saturday, June 15**  
**Nature Fest!**

Join us for fun and learning at the Northern Great Lakes Visitor Center in Ashland, from 10:00 a.m. to noon! Wisconsin Master Naturalist Volunteers will be eager to share their new nature

## May



**Our 2019  
Main Exhibit:  
Opening May 4!**



# NEW Curiosity Center!



**Opening May 4, Grand Opening May 25!**



EMILY M. STONE

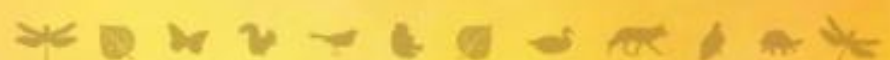


exploring northwoods nature  
through science and your senses

# natural connections



EMILY M. STONE

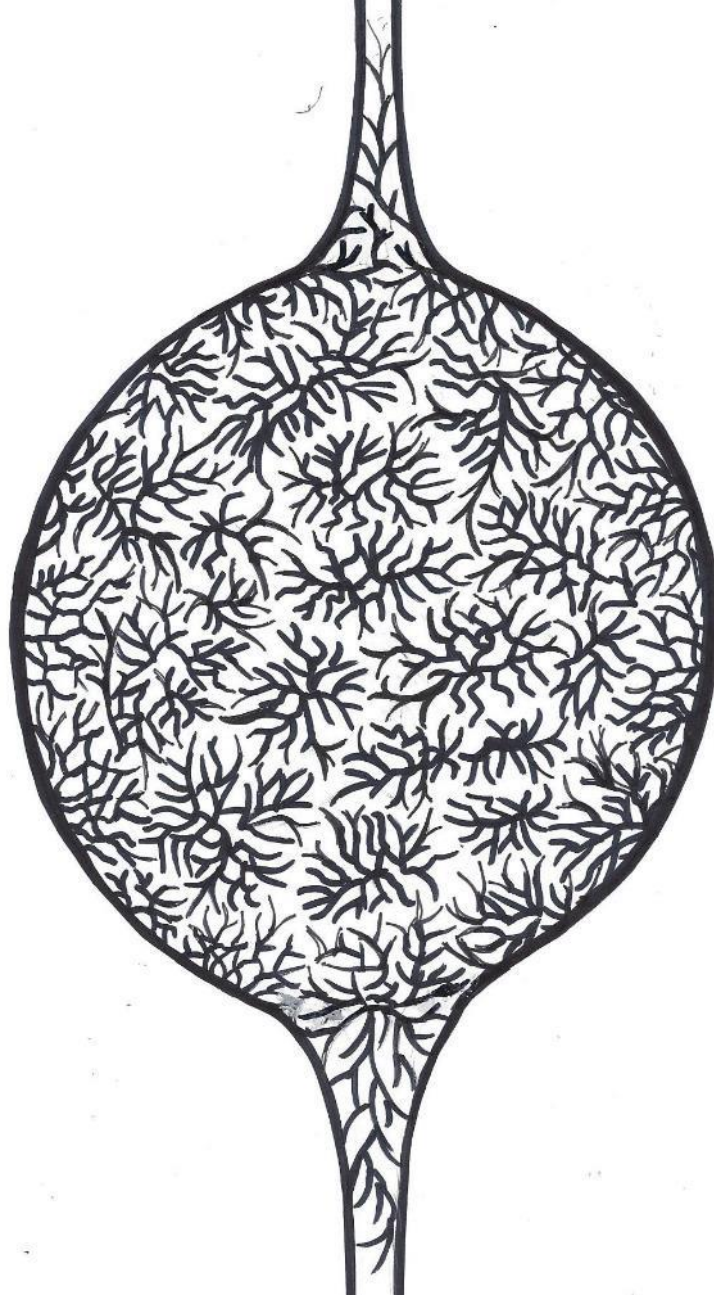


# natural connections<sub>2</sub>

dreaming of an elfin skimmer

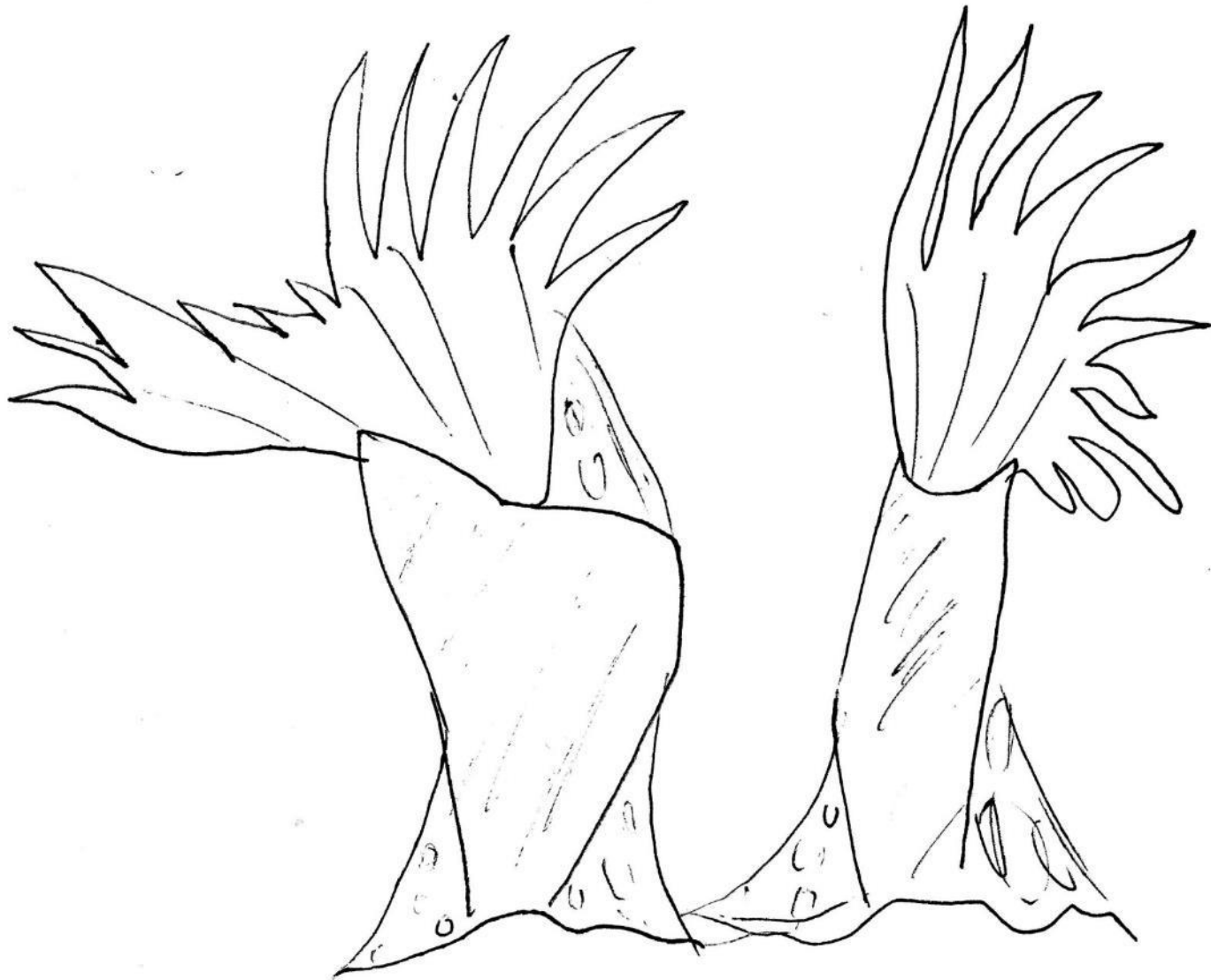


\$20 each at my table or the Author's Corner



Bryozoans, Sara Balbin Adult





Bryozoans, Josephine Lafrancois age 7

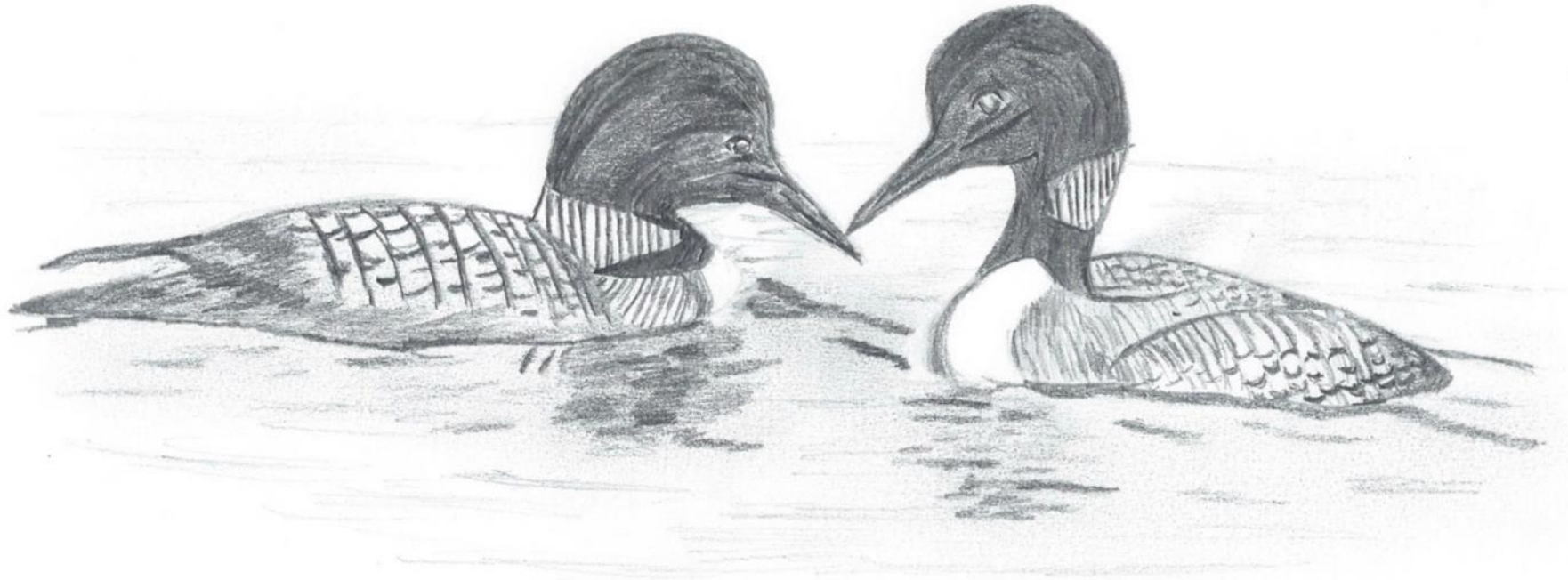


A Clay-Colored Sparrow Returns

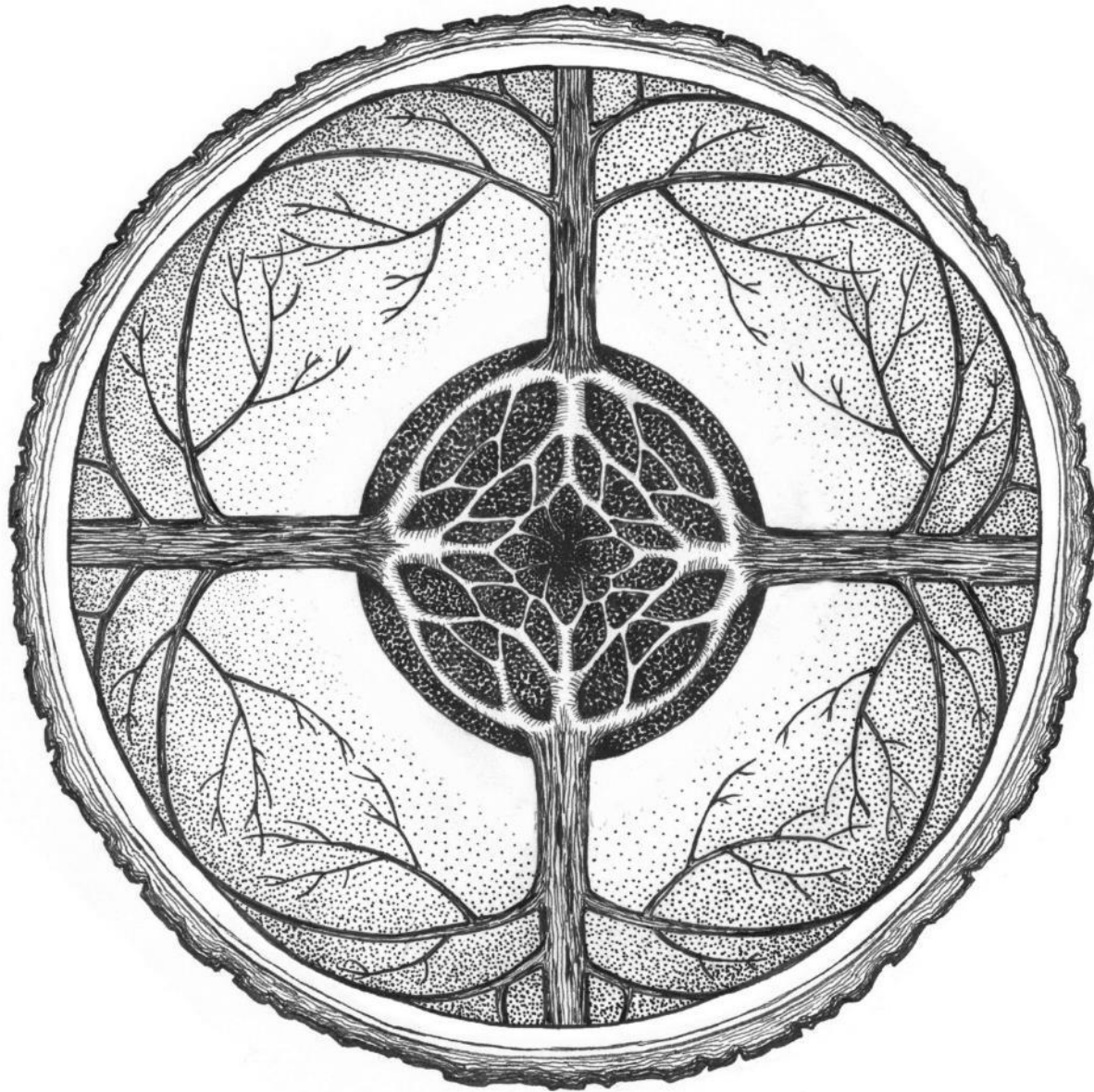
Kate Stolp

Adult





The Loons are Back Suzanne Stone Adult



Wood Wide Web | Janet Moore



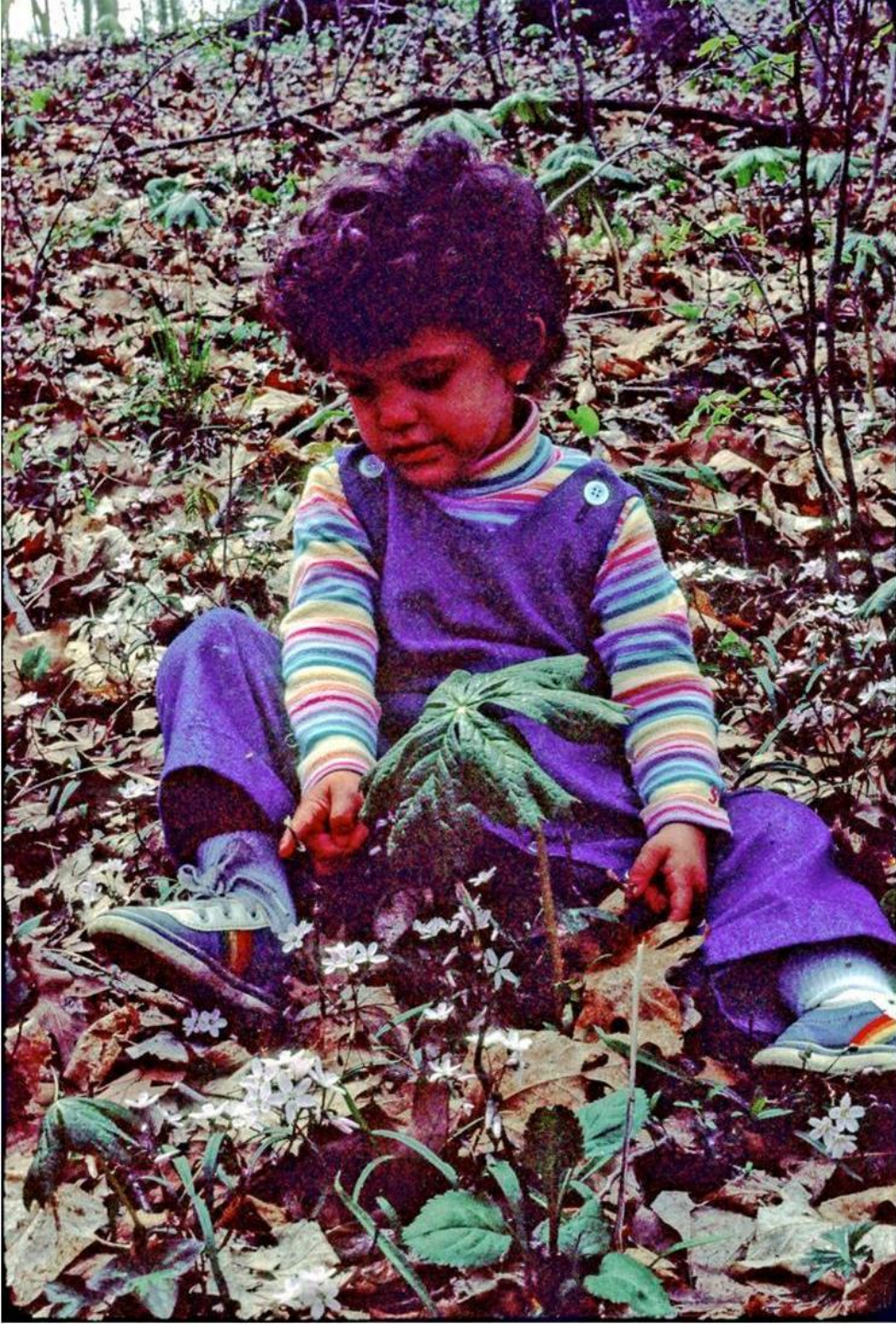
**All proceeds benefit children's  
nature education at the Museum!**



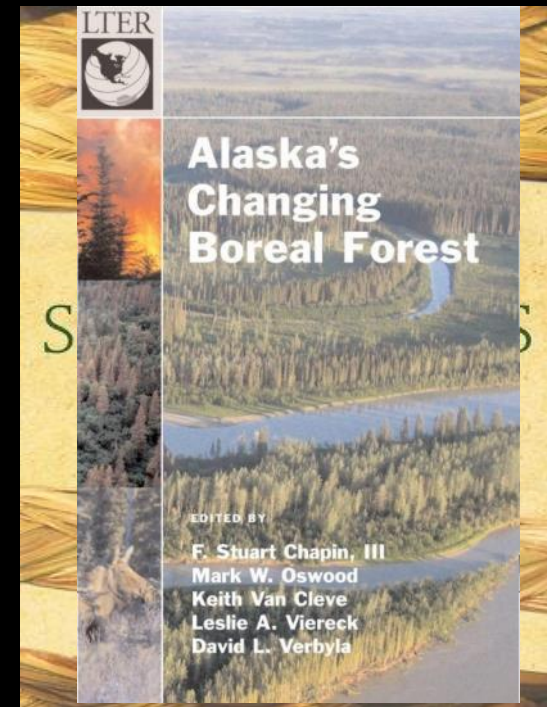


# natural connections<sub>2</sub>

- Weekly Articles
  - Newspapers
  - Museum's e-newsletter [www.cablemuseum.org](http://www.cablemuseum.org)
  - Facebook
- Podcast
  - iTunes
  - Google Play
- Presentations and Workshops!



# A Mud and Water Daughter



# Pair and Share

- What were your favorite books as a kid?
- How has your taste in literature changed?





**When we try to pick out anything by itself,  
we find it hitched  
to everything else in the universe.**

**- John Muir**

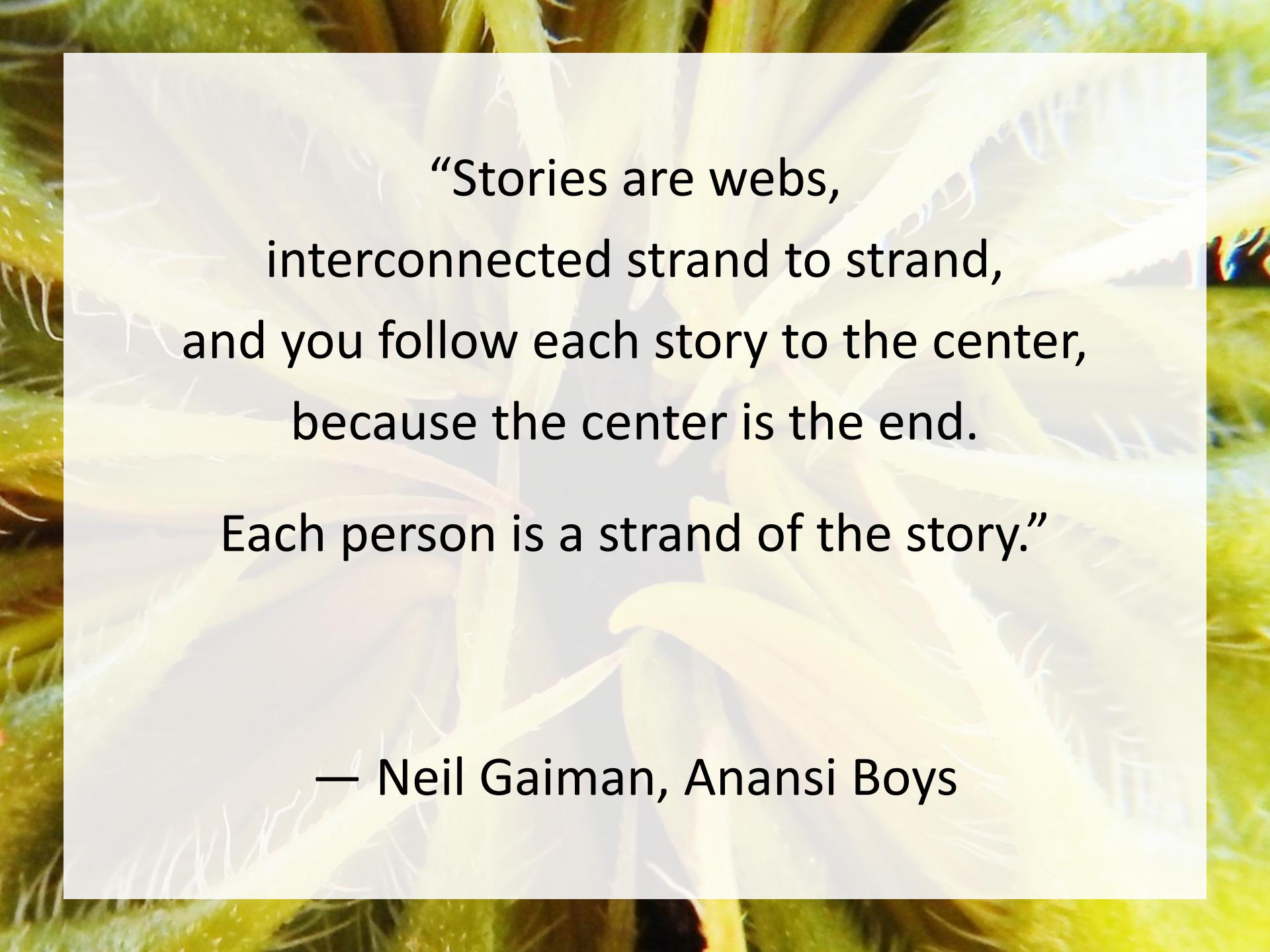




Kennedy McKinney







“Stories are webs,  
interconnected strand to strand,  
and you follow each story to the center,  
because the center is the end.

Each person is a strand of the story.”

— Neil Gaiman, *Anansi Boys*



# Finding the Stories in Nature





# WHY STORIES?





“To reverse this situation we must become so intimate with wild animals, with plants and places, that we answer to their destruction from the gut.

Like when we discover the landlady strangling our cat.”

–Jack Turner, *The Abstract Wild*

# Where can you find stories?

- Stories of Discovery
  - Yours
    - The adventure
    - The research
    - The revelation
  - Someone else's
    - Scientists'
    - Naturalists'
    - Your friend
- Life cycles
- Food chains
- Phenology
- Relationships
- Adaptations
- Leaf Miners

**(It's easier if you know stuff.)**



## What about anthropomorphism?

- the attribution of human characteristics or behavior to a god, animal, or object.
- But are things like hunger, fear, parental care, skill, or joy solely the property of humans?

## Aim for a sense of empathy!

- the ability to understand and share the feelings of another.

# Pair and Share

- What is the story you tell over and over to anyone who will listen?

(please don't actually tell the whole story, just give the title or topic)





**Growing up before our eyes...**












# Leaf Miner Mine







**“It's mesmerizing to watch a nepticulid larva at work under magnification--the central frass line is made up of many tiny pellets, and the larva is constantly depositing them as it eats, wiggling its tail end around methodically to place them just so.”**

**--Charley Eiseman,  
*Tracks and Signs of Insects***















# Leaf Miner Moth



Copyright © 2013 Steve Nanz

















*Ectoedemia argyropeza*













# Bark Borers





# Bark Borers





# Pair and Share

- What is something in nature that you've watched grow up?

# Pair and Share

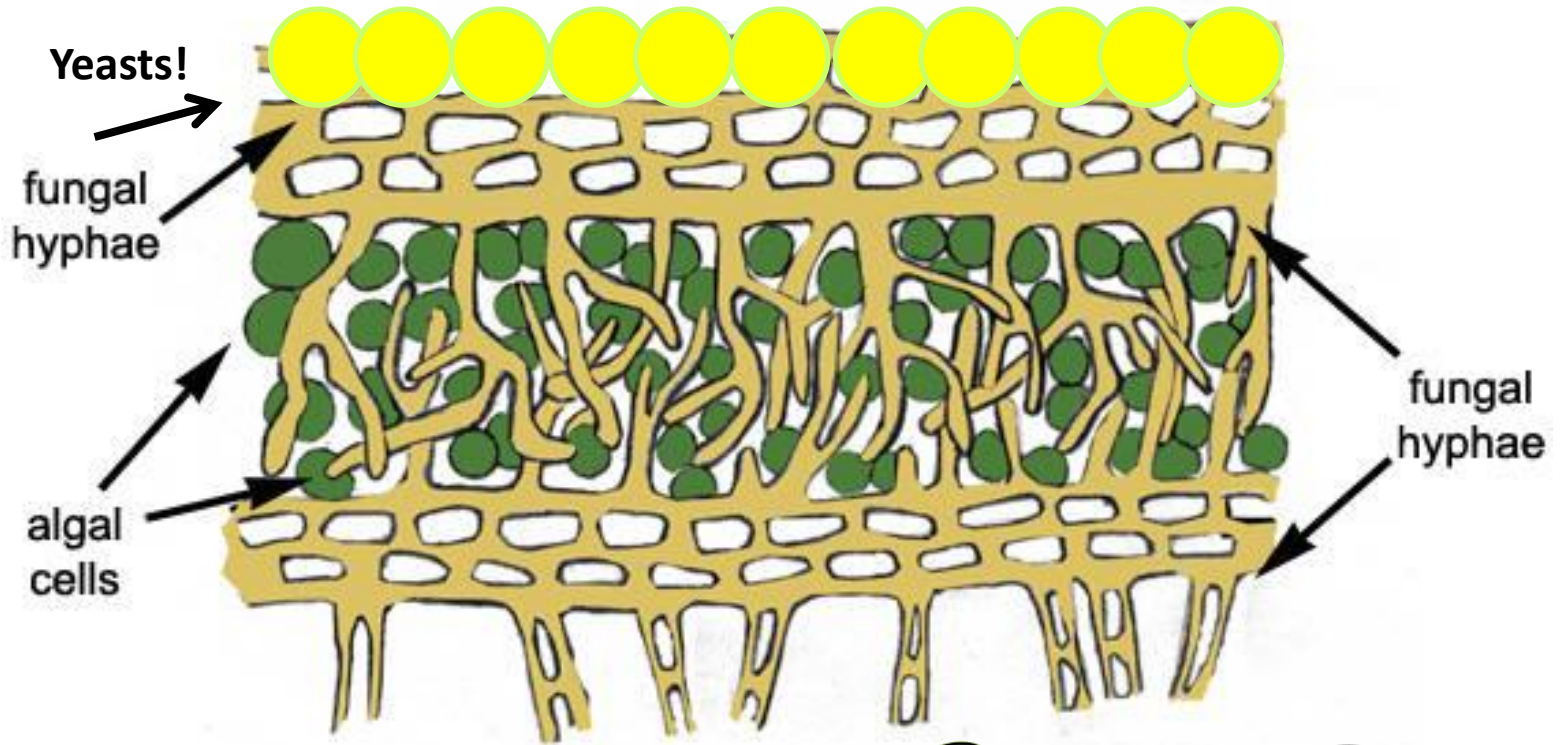
- Do you prefer to cook or do home repairs?



Lichen



# Symbiotic Mutualism



    
Fungus + Algae + Yeast



# The Lichen Story (groan!)

Alice Algae and Freddie Fungi took a Lichen to each other.

They moved to the sticks,



and their marriage has been on the rocks ever since.







Lungwort Lichen, *Lobaria pulmonaria*





Elegant Sunburst Lichen



# Lichens went to Space!





# SOME LICHENS INDICATIVE OF DIFFERENT LEVELS OF POLLUTION

## HIGHLY POLLUTED

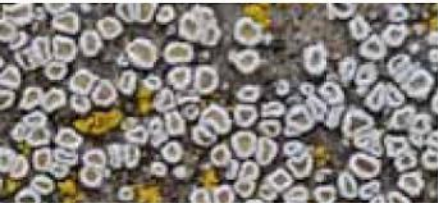
*HYPOGYMNA PHYSODES*



*XANTHORIA PARIETINA*



*LECANORA DISPERSA*



*DIPLOICIA CANESCEN*



## MODERATELY POLLUTED

*EVERNIA PRUNASTRI*



*FORAMINELLA AMBIGUA*



*LECANORA CHLAROTERA*



*RAMALINA FARINACEA*



## SLIGHTLY POLLUTED

*PARMELIA CAPERATA*



*GRAPHIS SCRIPTA*



*BRYORIA FUSCESCENS*



*PHYSCONIA DISTORTA*



## MINIMAL OR NO POLLUTION

*USNEA SUBFLORIDANA*



*PARMELIA PERLATA*



*DEGELIA PLUMBEA*



*RAMALINA FRAXINEA*

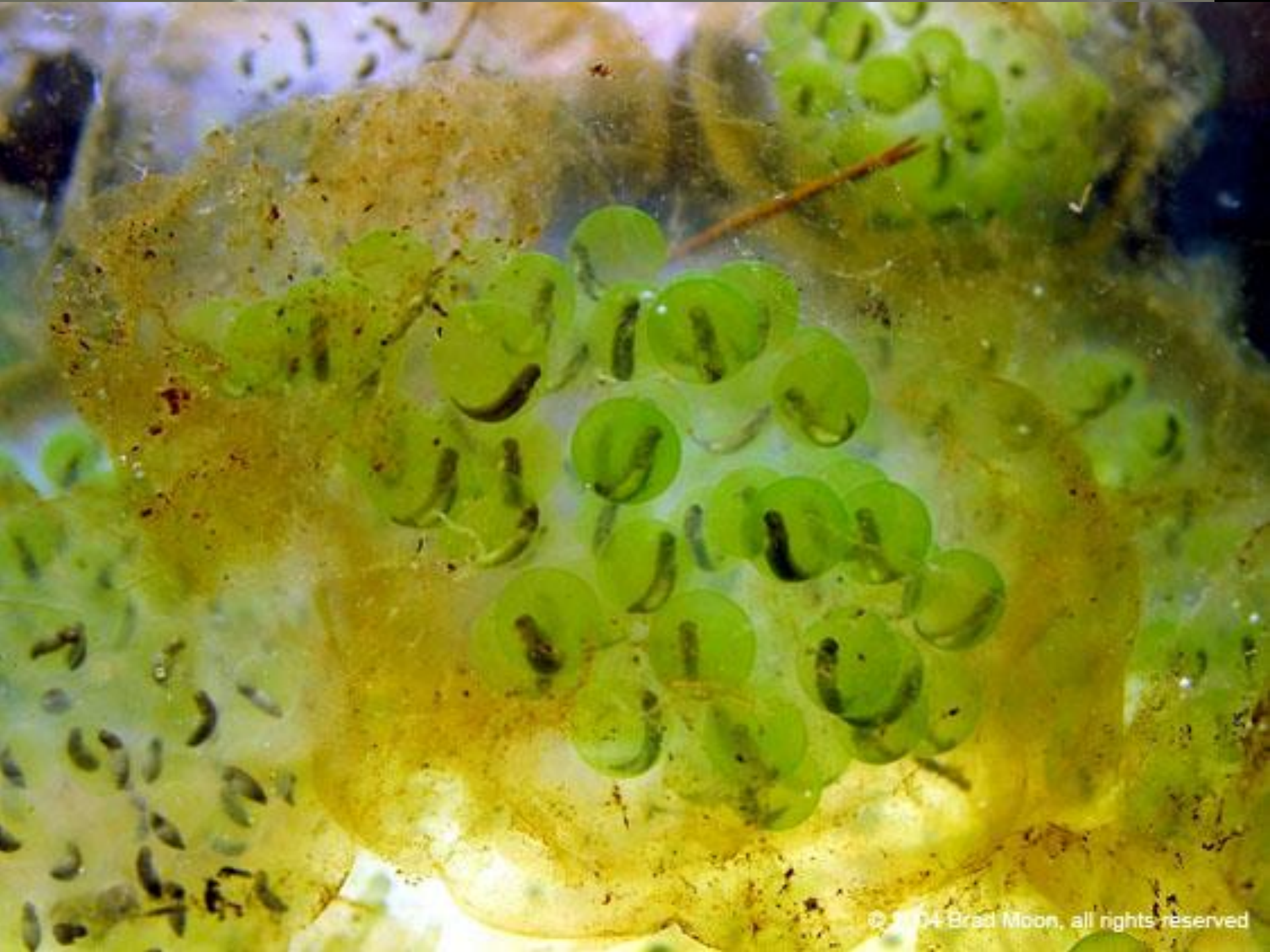














# Pitcher Plant Partnerships

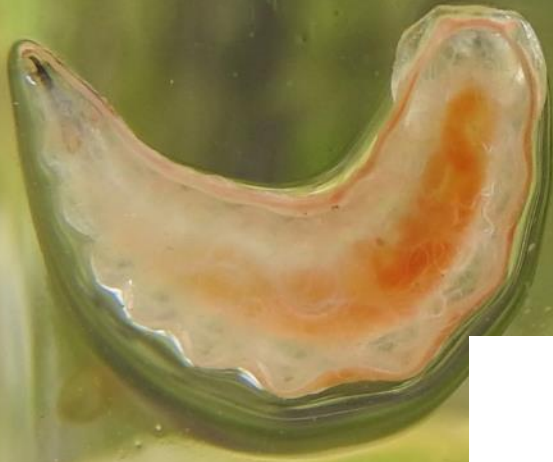








# Flesh Fly Larva





# Pitcher Plant Mosquito



# Pitcher Plant Mosquito





# Midge Larva







# Pair and Share

- Do you get claustrophobic?

# Goldenrod Galls: A Parade of Parasites







*Eurosta solidaginis*  
(Gall Fly)







*Eurosta  
solidaginis*  
(Gall Fly)







# Eurytoma gigantea (Parasitic wasp)





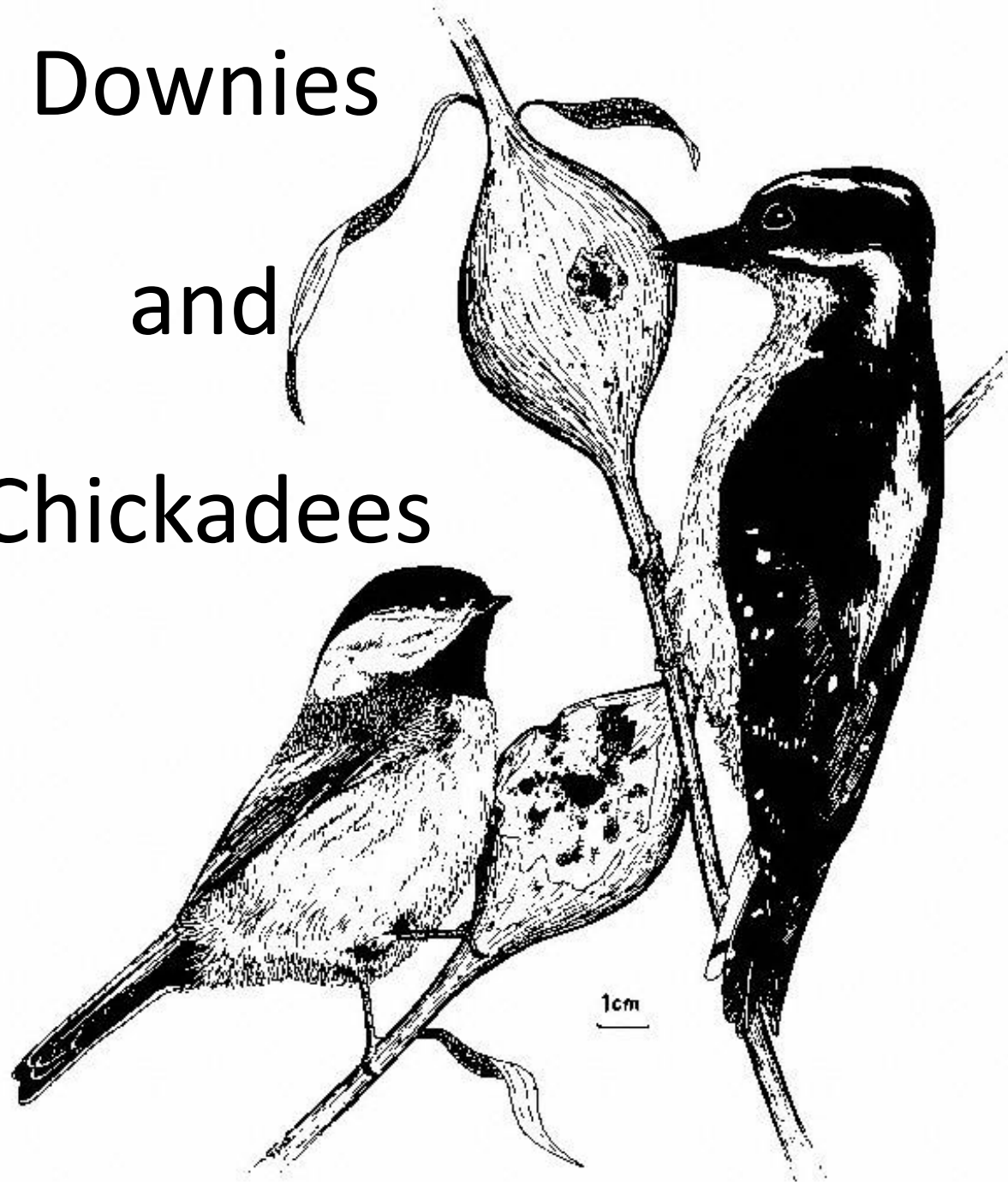
# Mordellistena unicolor (beetle predator)



Downies

and

Chickadees

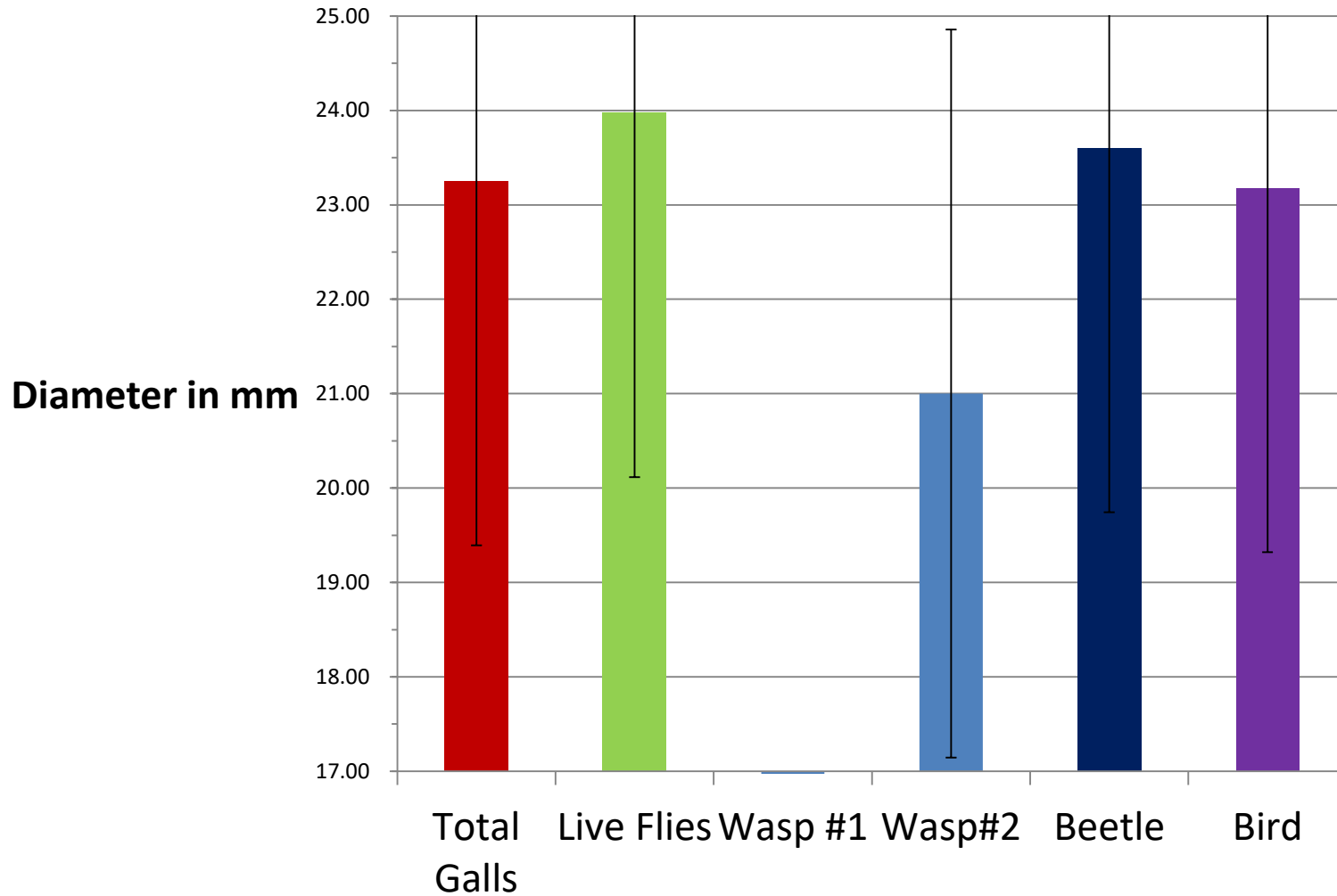






# Mean Diameter per Creature

## 2013-2018











# Goldenrod Gall Moth (*Gnorimoschema gallaesolidaginis*)

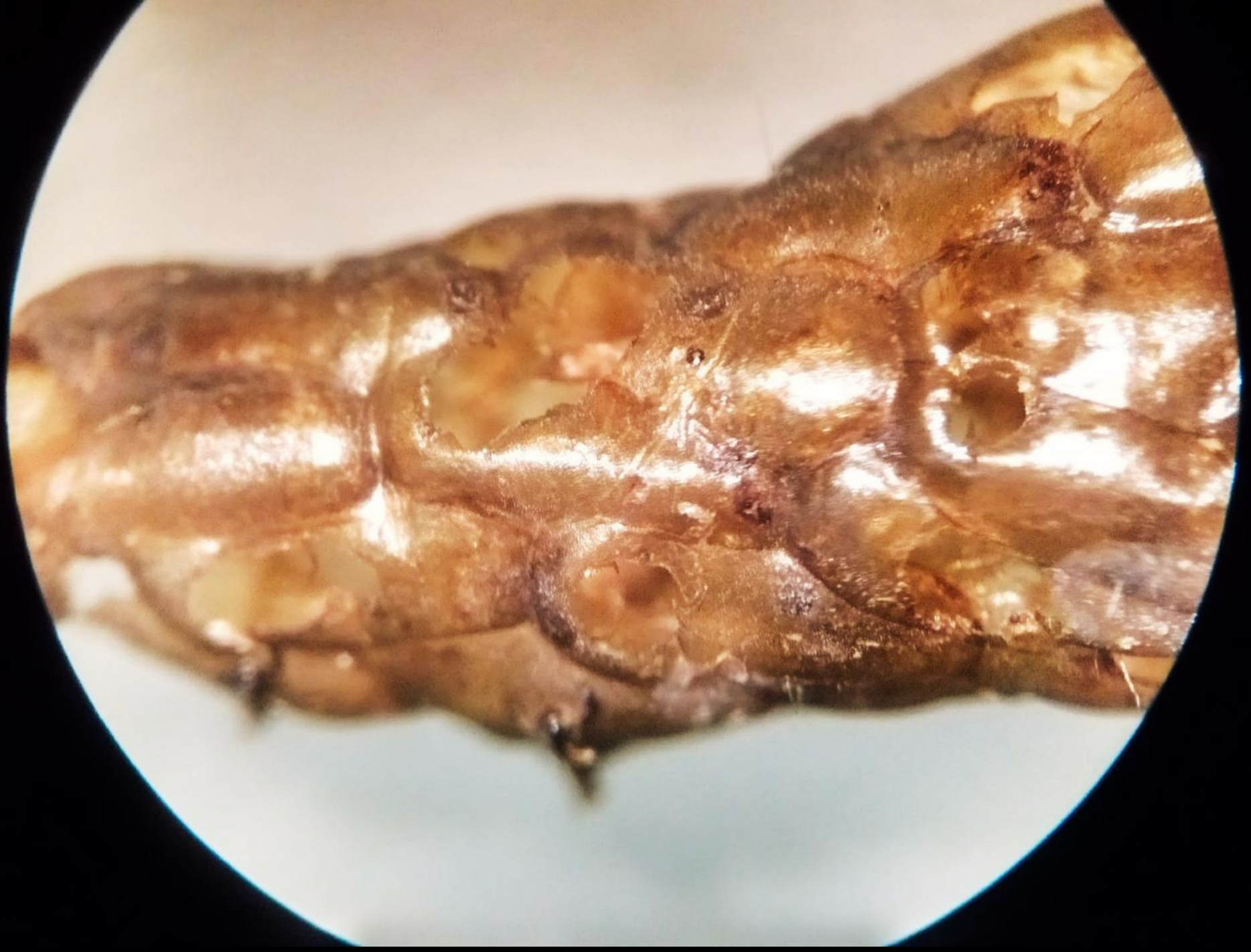


photo by Simon Carmichael













*Copidosoma sp.*  
(Parasitic wasp)



Photo by Charley Eiseman





# Pair and Share

What's your favorite flavor of donut?



# Dutchman's Breeches



Bloodroot







Trailing Arbutus



Spring Beauty





Cut-leaved  
Toothwort

Violet







Trout lily







# Eliosome

Myrmecochory  
(mur-me-co-cory)

<http://www.friendsofthacherpark.org/wp-content/uploads/2016/05/5-2016.pdf>

<http://www.morning-earth.org/Graphic-E/SymbiosisAnts.html#seed>





White Trillium













Red Trillium















# Round-lobed Hepatica







“I tried really hard to get this to work but failed each time. And I don't know why. Each time the ant would inspect the seed and lose interest completely after only a few licks. *Aphaenogaster* should be perfect at doing this but even they didn't care for the seeds. Wandering foragers out on patrol walked right over them.”



Stories are EVERYWHERE!





**Excuse me, Sir you dropped this ...  
oh, why are you running?**



ENGLISH



**STOP**



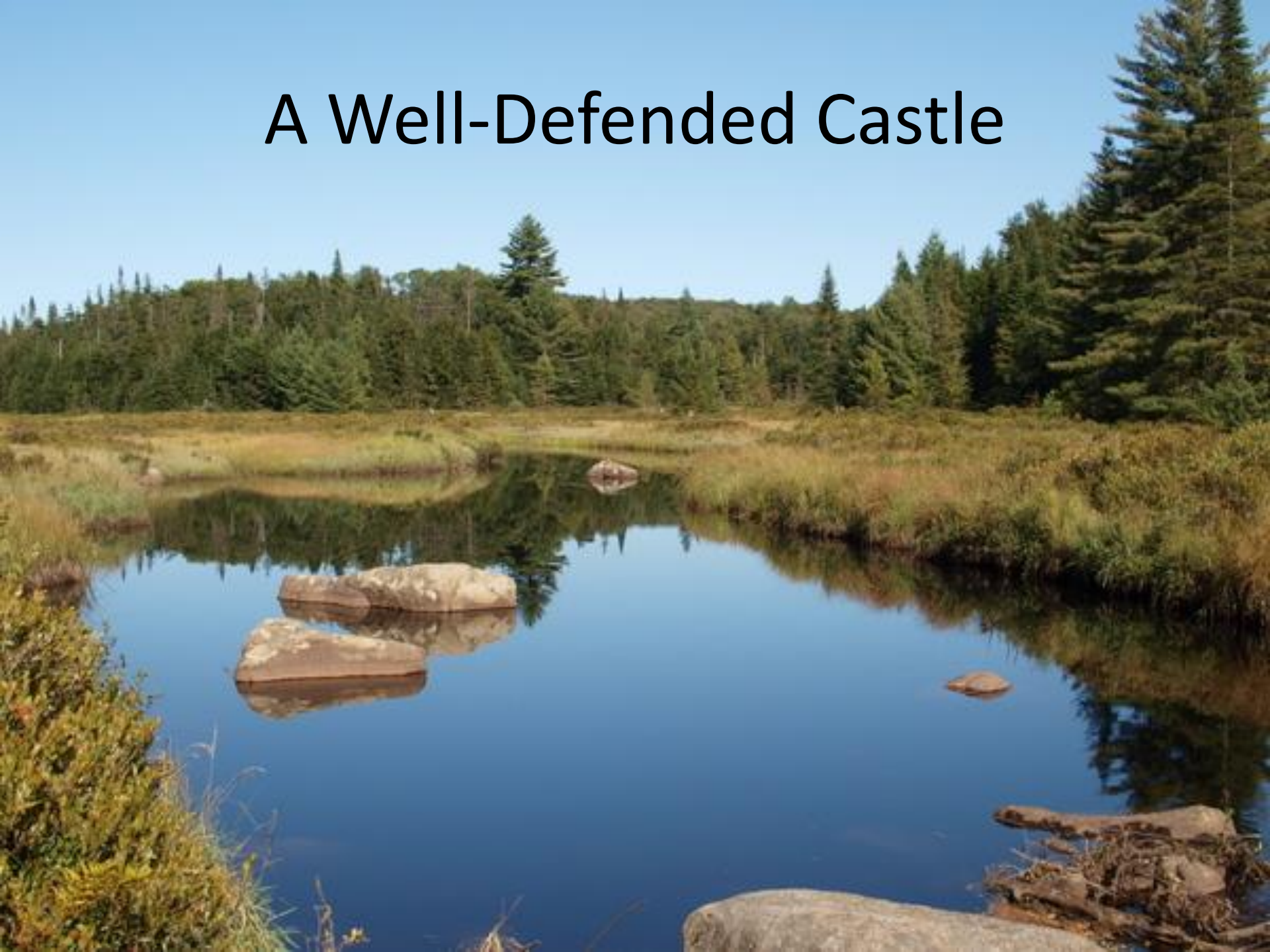
**PICNIC BASKET INSPECTION**

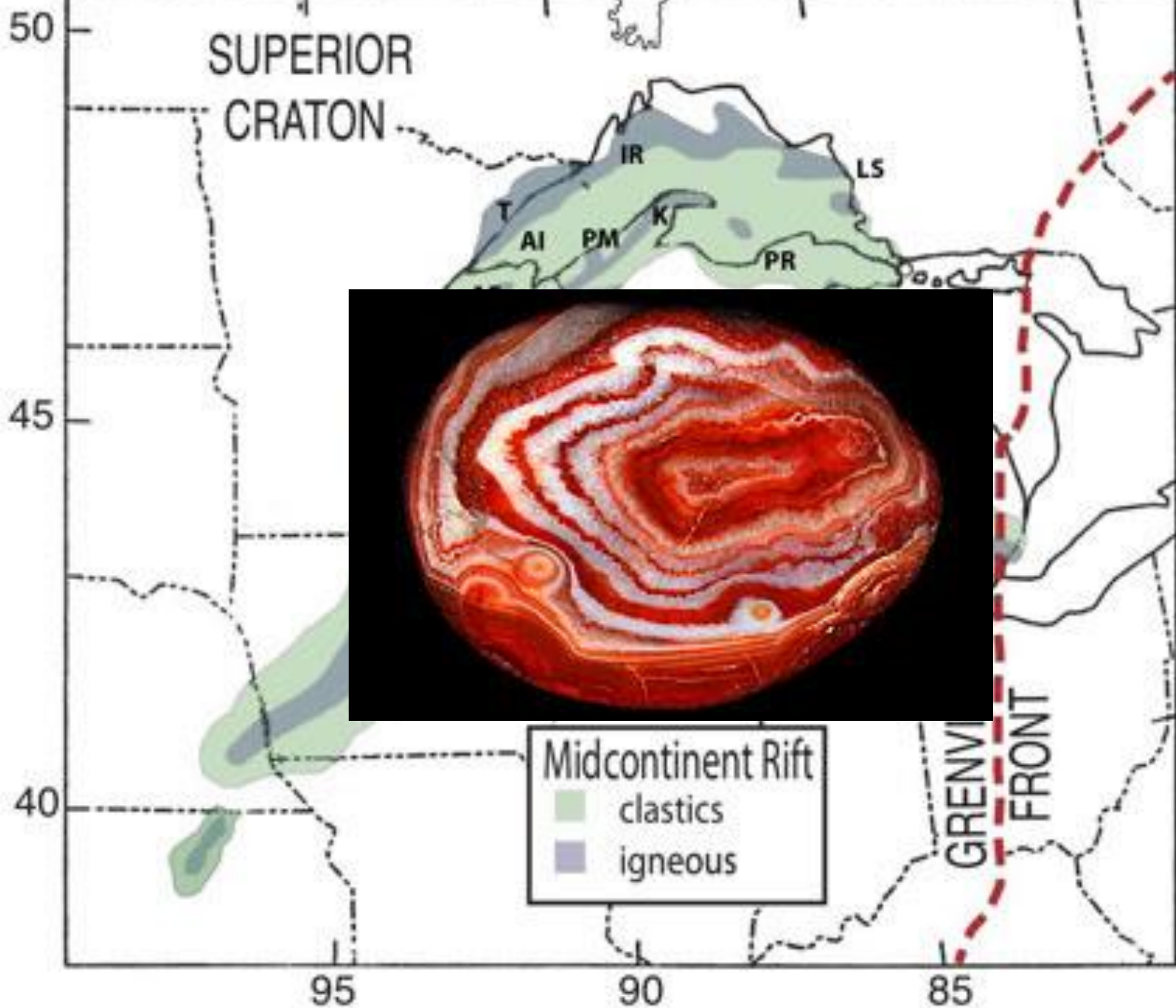


Single Mother  
Caught in Trap  
of Color-shifting  
Villain



# A Well-Defended Castle















# Brainstorm!

- In small groups, come up with story ideas from nature.
- Just a list, they don't have to be fleshed out.

- Surprising facts
- Funny animals
- Devious tricks
- Discoveries
- Adventures
- Sad stories
- Life cycles
- Food chains
- Phenology
- Relationships
- Adaptations

## **Stories of Discovery**

Yours

The adventure

The research

The revelation

## **Someone else's**

Scientists'

Naturalists'

Your friend

# Develop!

As a group, pick one idea and add some more details. What's the:

- **Setting** — the world of a story.
- **Characters** — protagonist, antagonist, others.
- **Event** — what happens, event the story is about.
- **Controlling Idea (CI)** — the “moral” of a story, philosophy you want to express.

**OR Context, Conflict, Climax, Closure, Conclusion**



# Share!

\_\_\_ minutes per group for someone to tell the story.

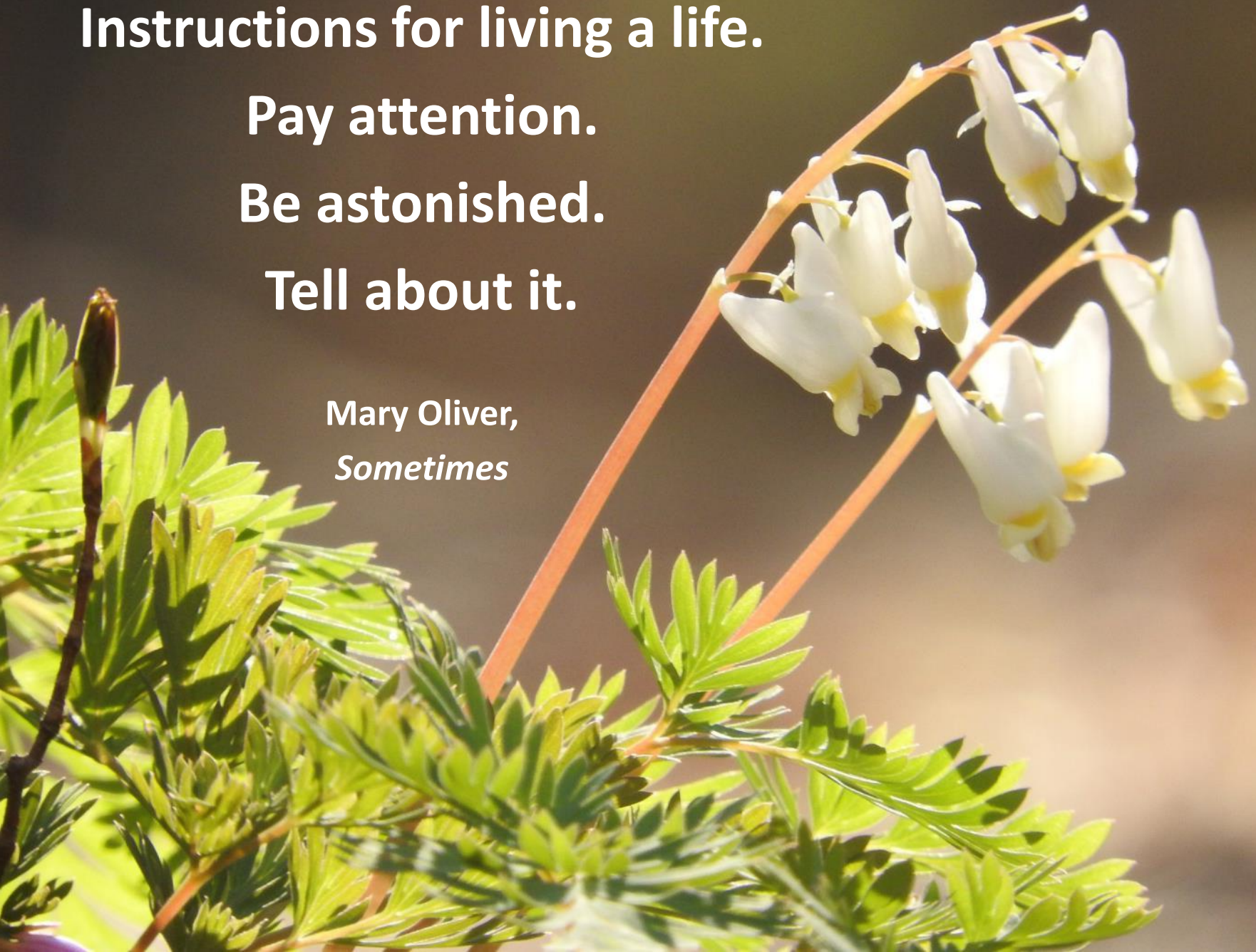
Instructions for living a life.

Pay attention.

Be astonished.

Tell about it.

Mary Oliver,  
*Sometimes*





EMILY M. STONE



natural  
connections<sub>2</sub>  
dreaming of an elfin skimmer



# Thank You!

The natural world offers a cornucopia of delights and amazements. Emily Stone knows how to unearth these stories and tell them with style.

—John Bates, naturalist and author of seven books on the Northwoods

Go on a micro-hike...

Go on a micro-hike...







The creation of a thousand forests  
is in one acorn.

Ralph Waldo Emerson

# Clickbait or Headlines Exercise



This dad singing 'Ave Maria' at a Disney resort is magic. Just watch his daughter's face.

*by Annie Reneau*

it a wool blanket that is  
illy queen size made of wool.  
it a complex stitch that  
p extremely slowly. A blanket  
as you are requesting in  
low stitch will take me  
1 hours. You're telling me  
rging less than \$2 an hour is  
g way too much?"

's can make it for so

Then have it made by other

You're insane.

You should give r  
family discount c  
you took forever t

I char

I'll tell you what. I  
going to do. You  
Get the yarn on s  
When it's comple

Retailer's conversation with the worst customer in the world went viral. Prepare to scream.

*by Tod Perry*



# Clickbait or Headlines Exercise



Confused Zoo Of  
Celebrate After I  
Gives Birth To F  
White Rhino

VIDEO

This Will Change The Way You Watch 'Moulin Rouge'

Today 12:41pm











Bunchberry















# Cornus canadensis



- (One of the) fastest flowers on earth!
- Blooms in under 0.4 milliseconds
  - Less time than it takes for a bullet to travel the length of a rifle barrel
- Pollen is accelerated
  - 2400 times the acceleration of gravity
  - 800 times that experienced by astronauts during liftoff
  - Pollen leaves the plant with an initial velocity of more than 4 meters/second
  - Pollen is propelled an *impressive* 2.5 centimeters up
    - That's over ten times the height of the flower!

# Cornus canadensis

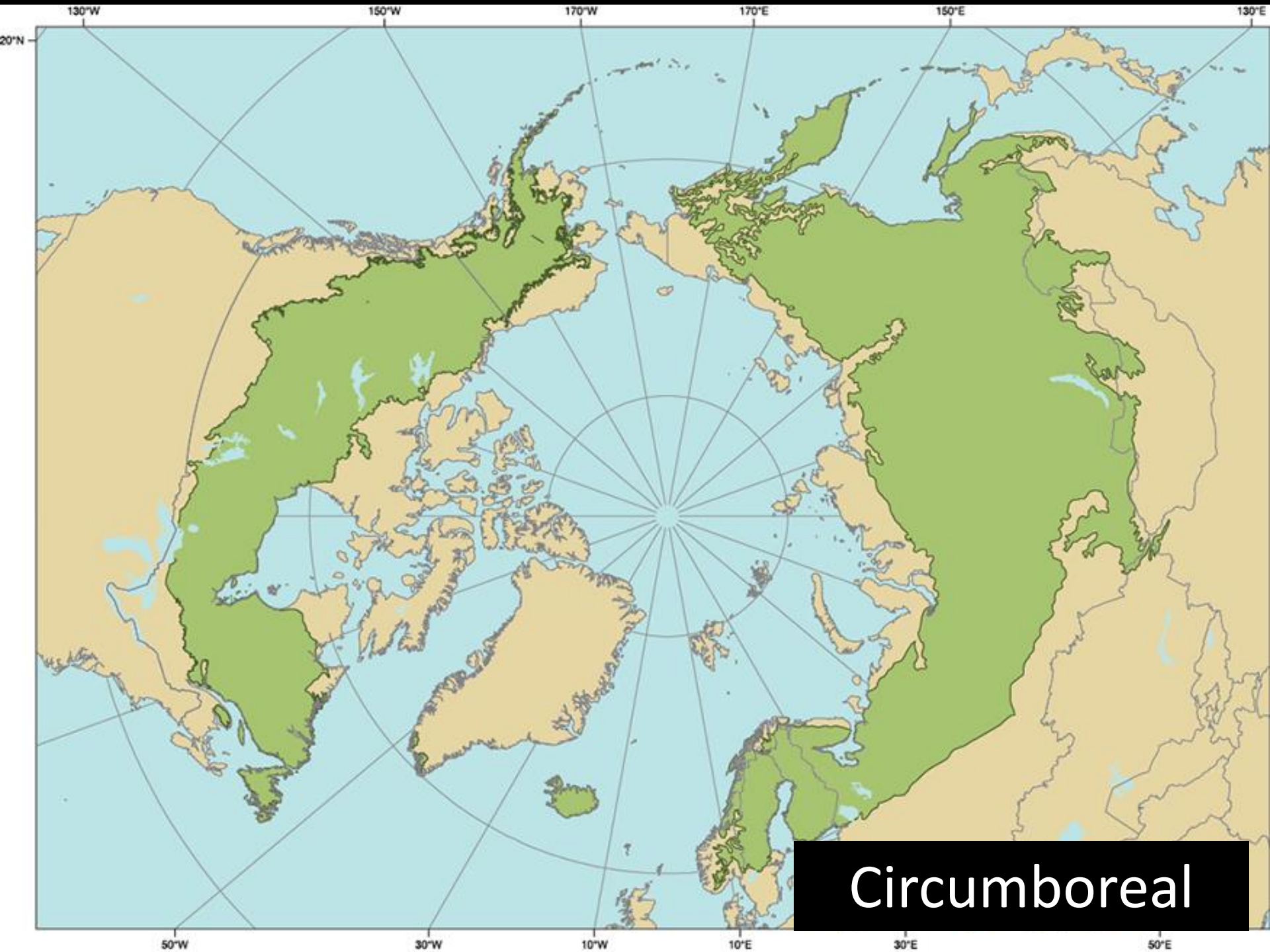
- **(One of the) fastest flowers on earth!**
- **Blooms in under 0.4 milliseconds**
  - **Less time than it takes for a bullet to travel the length of a rifle barrel**
- **Pollen is accelerated**
  - **2400 times the acceleration of gravity**
  - **800 times that experienced by astronauts during liftoff**
  - **Pollen leaves the plant with an initial velocity of more than 4 meters/second**
  - **Pollen is propelled an *impressive* 2.5 centimeters up**
    - **That's over ten times the height of the flower!**











Circumboreal