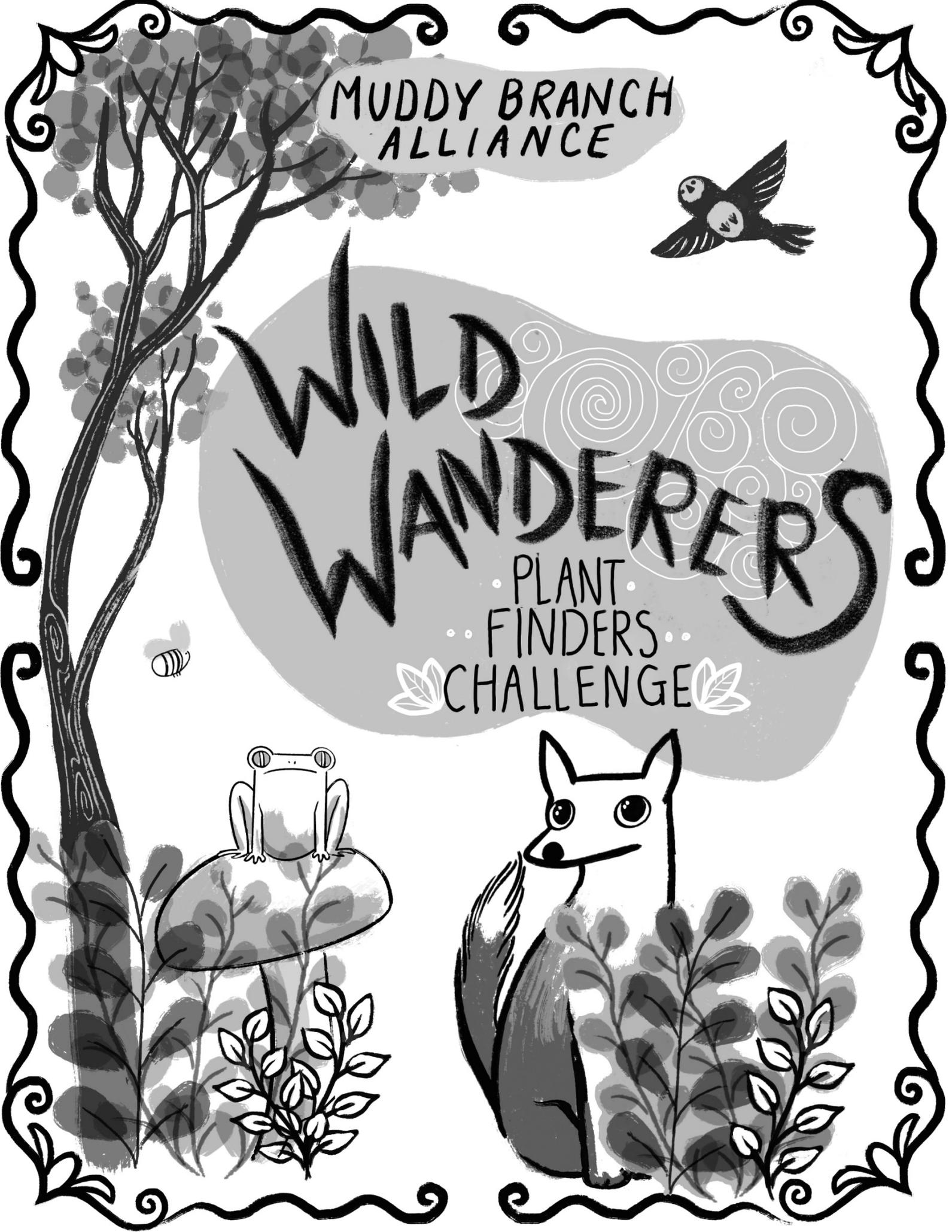


MUDDY BRANCH
ALLIANCE



WILD WANDERERS

PLANT
FINDERS
CHALLENGE



WILD MUDDY BRANCH WANDERERS ALLIANCE PLANT FINDERS CHALLENGE Fall Edition

Welcome, wild wanderer! Thank you for being a member of the Alliance.

WE STAND TOGETHER TO PROTECT THE EARTH!

Before you start this forest adventure, please write the following words on your heart:

I promise to be a nature protector. On our trails, I will leave no trace behind me, and when I can, I'll try my best to leave things better than I found it. When I'm out there exploring, I'll leave the plants I find to grow, so that they can live free, just like me.

Signed,

Nature protector, Very Cool Person

These plants can be found throughout our trails, and many of them in our backyards. Some you might even find in unexpected places! We're excited to share this challenge with you and introduce you to these plant friends growing around us all the time. Print this and use as a coloring book and explorer's journal! Record your finds in the scientific report box at the top of each page. Remember to keep the last page digital, to view color photos of these plants on your phone.

Please share your forest adventures with us! Take a picture of your wild self with your plant finds, and tag us on Instagram @MuddyBranchAlliance and Facebook at Facebook.com/MuddyBranchAlliance using the hashtag #MBAWildWanderers.

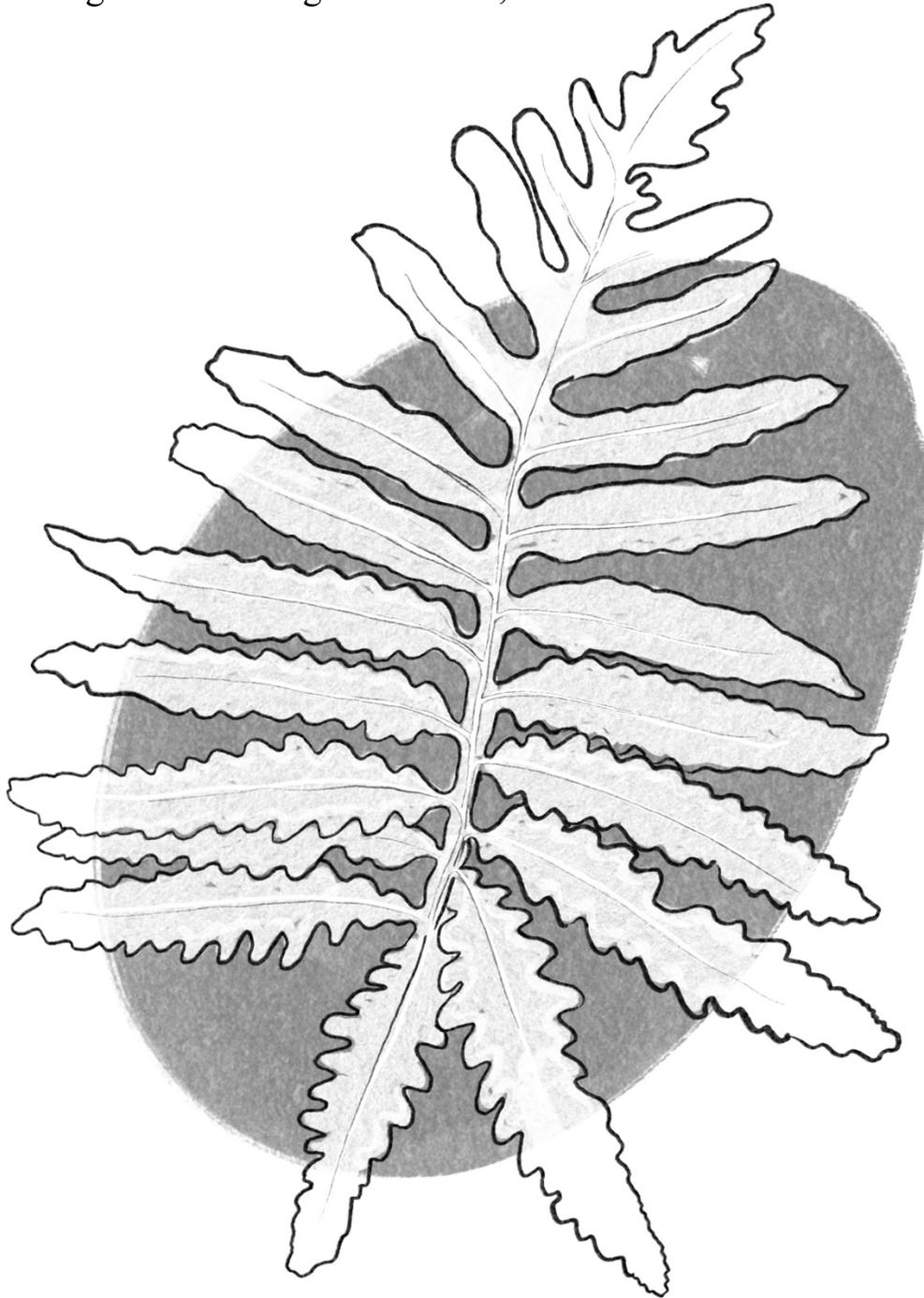
Please enjoy the wild outdoors, be safe, and teach to others what the plants teach you!

SENSITIVE FERN

Onoclea sensibilis

<input type="checkbox"/>	SCIENTIFIC REPORT
DATE	__-__-__
LOCATION:	
OBSERVATIONS:	

The sensitive fern got its name because it is sensitive to cold weather. Some ferns stay green all through the winter, but the sensitive fern's leaves die as soon as it gets frosty.



Sensitive ferns stand out because they have one big flat, fern shaped leaf instead of a bunch of tiny leaflets.

One special thing about ferns is that they don't make seeds. So how do you get baby ferns? Through spores! Spores are tiny cells that the fern releases to float on the wind until they land where a new fern will grow. Each spore is only about half the width of a human hair.

When a spore lands where the soil and water is just right, it grows into a small, green, heart-shaped plant *gametophyte*, about the size of a fingernail. Then, a tiny fern starts to grow from the gametophyte. So, it actually takes two generations to make a new fern. Because gametophytes are so small, you have to look closely at the forest floor to see them. How many gametophytes can you find?

AUTUMN OLIVE

Elaeagnus umbellata

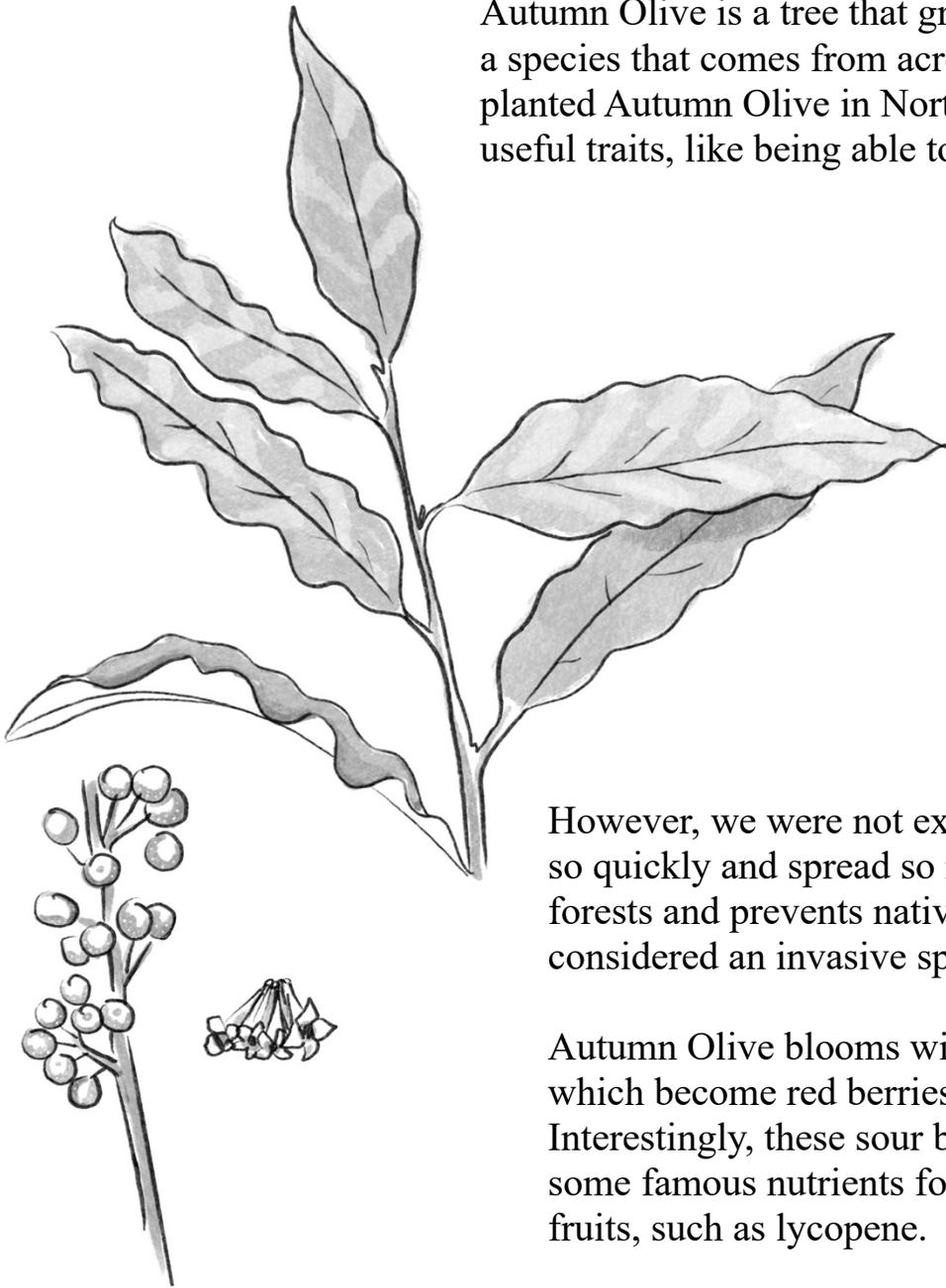
SCIENTIFIC REPORT

DATE _ _ _ _ _

LOCATION:

OBSERVATIONS:

Autumn Olive is a tree that grows around our trails, but it's a species that comes from across the world in Asia. People planted Autumn Olive in North America because it has useful traits, like being able to fix nitrogen.



Nitrogen is an element that all plants need to grow. 79% of the air we breathe is nitrogen (only 21% is oxygen!), but plants can't use the nitrogen in air. Plants that fix nitrogen have bacteria in their roots that can take nitrogen out of the air and put it in the soil so that plants can use it to grow.

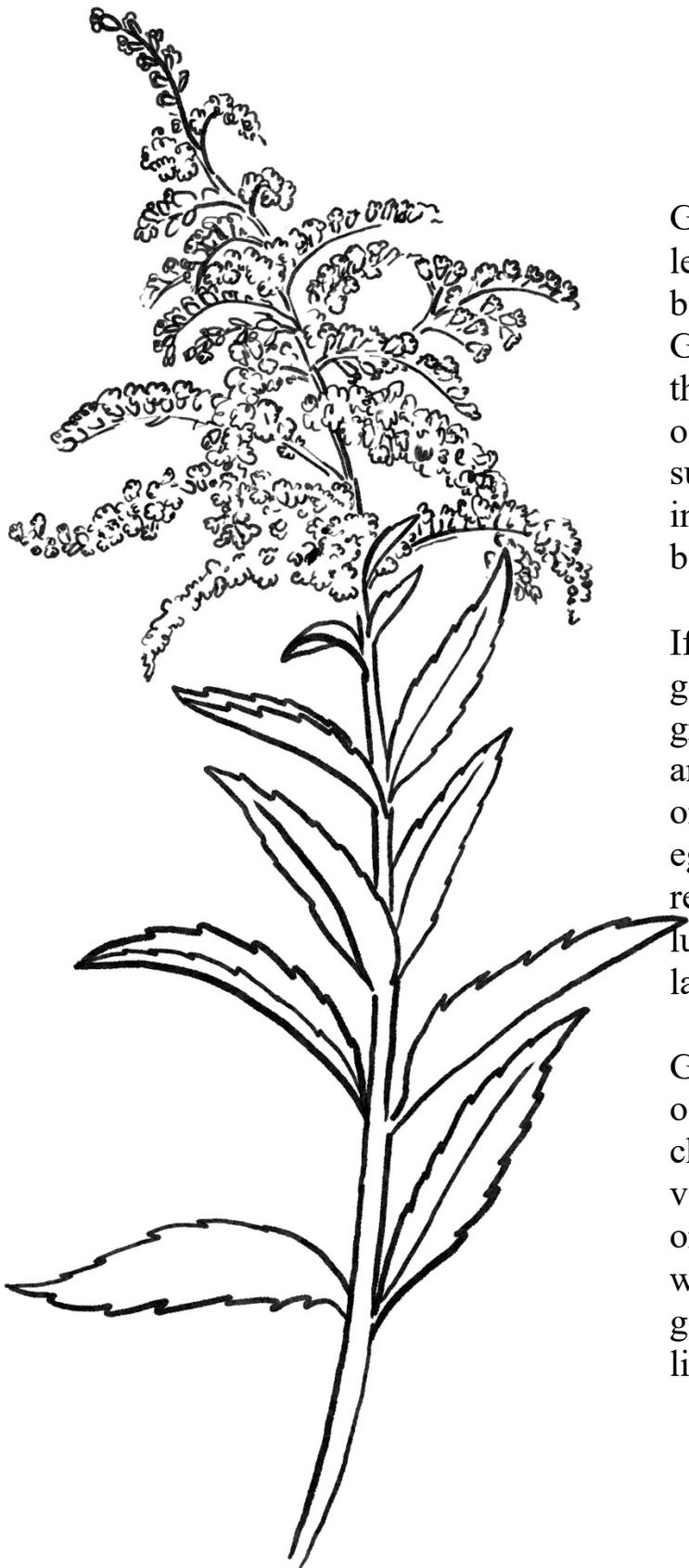
However, we were not expecting Autumn Olive to grow so quickly and spread so much. It spreads throughout forests and prevents native trees from growing, so it's considered an invasive species.

Autumn Olive blooms with white, bell-shaped flowers, which become red berries speckled with gold and silver. Interestingly, these sour berries have huge amounts of some famous nutrients found in tomatoes and citrus fruits, such as lycopene.

If you spot Autumn Olive, let us know where you found it. Keeping track of where it's growing might give us some good ideas about how to support our ecosystem while it copes with all these unexpected changes.

GOLDENROD

Solidago canadensis



SCIENTIFIC REPORT

DATE

LOCATION:

OBSERVATIONS:

Goldenrod stands out with its tall, leafy green stalks topped by beautiful sprays of golden flowers. Goldenrod enjoys the warm sun on the edge of the trail and takes over old farm fields and meadows. It supports many beneficial insects including bees, butterflies, flies, and beetles.

If you look closely, you may spot a goldenrod plant with a strange lump growing on it. These are called *galls* and are created by insects which live on the goldenrod. The insects lay eggs inside the plant, and the plant responds by forming a big protective lump around the insect egg and larvae.

Galls can be spotted on many types of plants and trees. Birds like the chickadee and downy woodpecker visit goldenrod frequently to snack on the insects that make galls. What wildlife can you hear near the goldenrod patch if you lean in and listen?

WHITE WOOD ASTER

Eurybia divaricata

SCIENTIFIC REPORT

DATE ____-____-____

LOCATION:

OBSERVATIONS:

Look at all those tiny white flowers! White wood aster is a host plant for pollinators, and like any good host, it puts on a party for these insects. Late into the fall when everything else has stopped blooming, White Wood Aster still has flowers.



It's a bushy plant, with serrated heart-shaped leaves (*cordate* is the special plant term for this shape). This aster is one of the few flowers that feel at home in the shade of the forest, even where the soil is rocky and dry.

You can spot this plant in many places along the trail, especially on hillsides and high ground. Checkerspot butterflies can often be found around this aster. When you find this flower, check for partying pollinators! What kind of insects do you see?

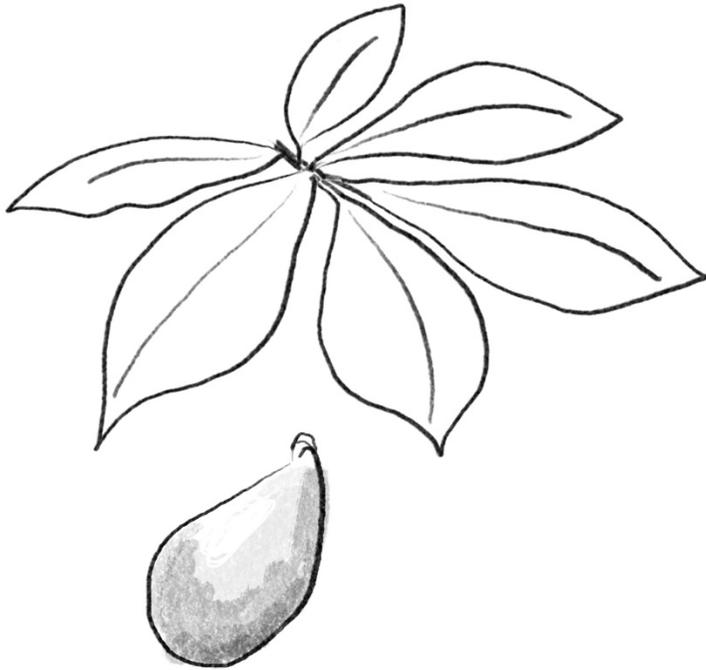
PAW PAW

Asimina triloba

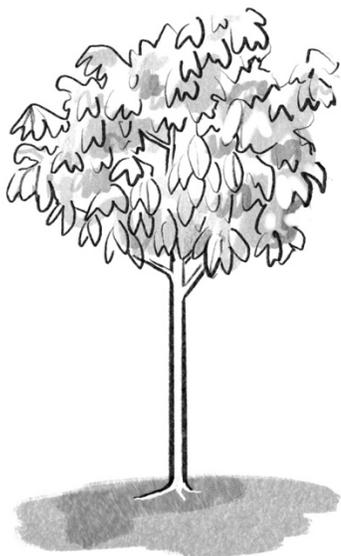
<input type="checkbox"/>	SCIENTIFIC REPORT
DATE	__-__-__
LOCATION:	
OBSERVATIONS:	



Why do I smell banana custard out in the middle of the woods? I must be near a pawpaw patch! These small, understory trees grow throughout the Muddy Branch trail system and produce some very interesting flowers and tasty fruits.



Pawpaw trees grow dark red flowers that have a distinctive triangular shape, with three outer and three inner petals. They smell unpleasantly stinky to attract pollinating flies, but then grow into tasty green, tropical-tasting fruit with large brown, oval-shaped seeds inside. Pawpaw trees grow from seed, but also can grow *clonally* when the roots of one tree decide to send up a new tree trunk nearby the original trunk. So, once you identify one pawpaw, you're sure to find many others nearby.



Many mammals, birds and reptiles eat pawpaw fruit and distribute the seeds in their poop. Foxes, squirrels, and box turtles have all been known to eat pawpaw. Thousands of years ago, huge mammals like the woolly mammoth and giant ground sloth roamed what is now known as North America, and they probably also ate pawpaws and distributed their seeds. What animals can you spot roaming through our woods today?

JAPANESE STILTGRASS

Microstegium vimineum

SCIENTIFIC REPORT

DATE

LOCATION:

OBSERVATIONS:

If there's one plant you can find without even trying, it's Japanese stiltgrass. This is another invasive plant that spread into North America accidentally. It was used as packing material to protect porcelain plates being shipped from China to North America, and seeds fell out and sprouted. Now, it can be found taking over the forest floor from Texas to Maine. Its thick, lush green leaves cover everything, with shallow, spreading roots that are easy to pull up. In the fall, it turns purplish brown.



Japanese stiltgrass is a serious reminder of the impact humans can have on the environment, even without meaning to.

Japanese stiltgrass grows fast and has no predators in our ecosystem, so it ends up growing out of control and choking out other plants on the forest floor, including young trees.

You may have Japanese stiltgrass in your yard, too. If you want to keep it from spreading, it's best to wait to mow it until late summer, cutting it down right before it blooms to prevent it from making seeds. If you cut it earlier, it may make it spread even more!

Sensitive Fern:

https://en.wikipedia.org/wiki/File:Onoclea_sensibilis_3.jpg



Autumn Olive:

https://en.wikipedia.org/wiki/File:Elaeagnus_umbellata1.jpg



Goldenrod:

https://en.wikipedia.org/wiki/File:Solidago_canadensis_20050815_248.jpg



White Wood Aster”

https://en.wikipedia.org/wiki/File:Eurybia_divaricata_in_CT.jpg



Pawpaw:

https://en.wikipedia.org/wiki/File:Asimina_triloba3.jpg



Japanese Stiltgrass:

https://en.wikipedia.org/wiki/File:Microstegium_viminium_specimen.jpg

