BRUCE MUSEUM
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Wild Wednesdays

Week 3: *Pollination Appreciation*

By Corinne Flax

Welcome to the third week of Wild Wednesdays! This week we will explore the relationship between plants and pollinators, as an introduction to next week's deep dive with artist and scientist Hara Woltz. Get ready to go outside and get wild, or find a comfy space with access to a good view of the outdoors.

Below are some of the most common questions and concerns about pollination and pollinators. There are also links throughout the lesson plan that will help you enrich your understanding of pollinators.

A Note: *If you, or anyone you are with, has a bee allergy, make sure you take precautions before getting close to pollinators.*

- **What is pollination?**
  - The transfer of pollen (a powdery substance, generally yellow, found on the male part of the flower or cone of a plant) from the male part of a plant (the anther) to the female part of a plant (the stigma).
  - The transfer of pollen fertilizes the female part of the plant, which will swell and ripen into a seed-bearing fruit.
  - Most plants will not produce fruit without being pollinated.
  - Botanically, a fruit is the fleshy seed-bearing structure of a flowering plant.
    - This is why cucumbers and cherries are both fruits, botanically, if not at the grocery store.

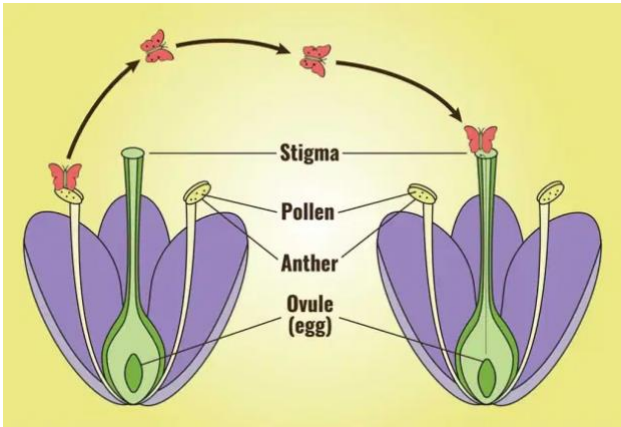

Diagram of the parts of flower, male and female

- **What are pollinators?**
    - Pollinators move pollen from plant to plant, either intentionally or incidentally.
    - There are animal pollinators (bees, butterflies, other insects, birds, and bats), and inanimate pollinators (wind, rain, and gravity).

Animal pollinators interact physically with flowers, getting pollen onto their bodies, and transferring it as they move from plant to plant

- **Should I be afraid of bees?**
    - Absolutely not, but you should be respectful of their space and be careful around them.
    - If you want to know more about bees, this resource from the USDA is useful.
- **How do plants attract pollinators?**
    - With specific smells (not all pollinators like sweet smells), protein rich pollen, sweet nectar, and alluring colors.

Squash Bee. Copyright Sharp-Eatman Nature Photography

- **How do pollinators affect me?**
    - Pollinators are important to many food crops. Without pollination from insects, these plants won't make seed-bearing fruits.
        - Some of these crops are: blueberries, apples, almonds, vanilla, and tomatoes.
    - Pollinators are beautiful and interesting. What would a summer day be without the buzzing of bees or the fluttering of a butterfly wing?
- **I've heard that pollinators are in trouble. How can I help?**
    - Plant your yard with plants that bloom at different times of the year and provide food for pollinators.
    - Provide places for pollinators to lay their eggs.
        - Consider not mulching some areas of your yard; many pollinators need bare and sandy soil to lay their eggs.
        - Don't clear all the dead brush and leaves from your yard; many pollinators lay their eggs in old twigs and dry foliage.
    - Choose pest control options that are safe for pollinators.
    - Help spread the word about the importance of pollinators.

Pollinators in Action: An Observation and Journaling Activity

Materials needed: notebook and pen or pencil, a comfortable place to sit, appropriate materials for going outside if doing so (sunscreen, bug spray, etc.)

- Choose a nice day, not too windy or cold, and find a place where you will be able watch pollinators visiting plants. You might want to bring a notebook and a pencil to make notes on anything you find interesting.
    - Think about the areas around your home and your neighborhood. Once you think of a comfy place to sit, near flowering plants, spend some time there, watching and listening for pollinators.
- Things to notice and observe:
    - What type of plants and flowers are you looking at?
        - CT Woody Plant Database
        - CT Invasive Plant ID
        - NY Native Plant Database
    - What shape are the flowers you are looking at?
        - Some plants and pollinators are generalists, but some are specialists and can only be pollinated by specific pollinators.
        - Plant and pollinator specialist relationships can be as exotic as Darwin's orchid and its moth, or as home grown as tomatoes and bumble bees.
    - What types of pollinators did you see?
    - How did the pollinators interact with the plants?
        - Did they walk on top of the flowers?
        - Crawl inside of the flowers?
        - Hang on the undersides of the flowers?

Hands-on Pollination Exploration

Materials needed: glue-stick glue, paper, pencil, pen or markers, clear tape, natural materials.

Late spring is a great time of year to see pollination in action. The first flowers of spring are quickly fading and producing seed bearing fruit. Go outside and look around, collect some of the fading spring flowers as they are going to seed. Some examples of flowers gone to seed that you may find: crabapple, daffodils and tulips, oak, maple, linden and sweet gum trees, dandelions, and chickweeds.

When you get home from collecting your flowers and seeds, lay them out on a flat surface and choose your favorites. Using lots of glue-stick glue, and maybe a little tape, create your own pollination exploration, like the image on the right.

Another way to explore pollination is by dissecting a flower and finding all of the different parts. The image on the right is a dissection of an Alstroemeria, a flower commonly found in the florists' section at the grocery store.

On the right is a simple flower dissection, using glue-stick glue, paper, and markers. It's important to get hands on with this project, really exploring the different parts of the flower and the process it goes through to make a seed.

By exploring the reproductive structures of a plant physically, you will be able to understand more about the relationships between plants and pollinators. Next week, Hara Woltz will offer a more in-depth exploration of plants and pollinators, focusing on using journaling as a key to learning more about this fascinating relationship.

Links to even more information
Basic pollinator info
https://www.xerces.org/
https://brucemuseum.org/site/exhibitions_detail/wild-bees
Scholarly Articles from CT USDA