

Native Plants of Groton

UConn NRE Fall 2016 GOSA Service Learning Project

By Alison Hammerly & Austin Jatkowski

Bryophytes (the different mosses)

Bryophytes require moist conditions to reproduce.

They do not have any vascular tissue, so they are generally just a few inches in height.

The three different groups of bryophytes are mosses, liverworts and hornworts.

This group of plants can be found growing in any damp environment on all properties.



Pteridophytes (Ferns)

The fern parts are labeled differently than other plants:

- Roots are rhizomes
- Stems are fonds
- Leaves are pinnae
- New shoots are fiddleheads

Fiddleheads can be eaten but some are toxic.

Ferns reproduce through spores, which germinates and reproduces once it is dispersed.

Ferns have the capability of being taller than bryophytes because they have vascular tissue.

There are New York Ferns on the Sheep Farm.



Gymnosperms

Gymno - naked Sperm - seed

Gymnosperms produce seeds in a female pine cone and produce pollen in male cones.

Male cones are on the bottom of the tree and female cones are at the top.

Gymnosperms pollinate the female cones by releasing the pollen from males.

There are a few cedars along the norther side of Sheep Farm, but in general, the pinecones on the ground give away the identity of a gymnosperm.



Angio - vessel sperm - seed

Angiosperms form flowers that then produce a vessel holding the seeds.

The flower limits the amount of pollen the plant must produce by targeting different pollinators through the color and shape of the flower.

From angiosperms we get almost all of the plant products we consume.

All of the plants that produce fruits, nuts or seeds are angiosperms, so the majority of the plants that can be admired on GOSA's properties is an angiosperm.



The Importance of Native Plants

Native plant species are all plants (including herbs, trees, and shrubs) that originated in one specific region, state, or country. Native plant species are those that have occupied the region of origination for a long amount of time and in turn have become a key component of the natural ecosystem.

Unfortunately these native plant species are being lost at an alarming rate. For example, removing a certain species may also remove the insect that feeds on that plant, and then in turn affects the bird that eats the insect, and so on. The properties of the Groton Open Space Association, however, contain a multitude of these vital species that have faced all kinds of threats due to human activities. Said activities are the destruction and fractioning of habitats for commercial or industrial use, introducing biological invasions (species native to another country) which displace and compete with natives, and others.

How the Native Plants of Groton Interact with their Environment

Native plant species have always played a vital role in maintaining a healthy and biodiverse ecosystem. It is imperative to realize the web of interactions that these plant species have with their environment. Plants act as food, habitat, and shelter for many animals and insects that coexist with them in these environments.

As you may know, Milkweed (*Asclepias incarnata*) is a perennial flower which produces sap that greatly attracts monarch butterflies. Monarchs are necessary as pollinators. However due to the rapid decline and scarcity of the milkweed plant, the overall butterfly population in North America has plummeted dramatically, perhaps as much as 90%. This is because the monarchs need the plant in order to successfully host caterpillars, and with the plant's rapid decline, the monarch population can't successfully reproduce.



Common Milkweed (*Asclepias syriaca*)

Monarch butterfly on swamp milkweed in Michigan. Photo by Jim Hugins/USFWS



Although plants like trees and shrubs are vital in maintaining a healthy ecosystem, it is also important to realize that cutting some of them down and providing brush piles helps small mammals such as the New England cottontail survive.



Both photos taken at the GOSA property known as the Sheep Farm.

The Mountain Laurel is the state flower of Connecticut. The plant is an evergreen shrub growing 3-9 m tall. Blooming in May and June, the plant has round flowers ranging in color from a light pink to white. Be careful, though, Mountain Laurel is a poisonous plant and should not be ingested or burned!



Mountain Laurel
(*Kalmia latifolia*)

Other Uses for Native Plants - American Witch-hazel

-Witch-hazel has been used by centuries, beginning with the native Americans. It was clear to them that the plant held some spectacular medicinal and healing properties.

Some of the historical uses for witch-hazel:

- The Osage used witch-hazel bark to treat skin ulcers and sores. The Potawatomi steamed twigs over hot rocks in their sweat lodges and used them to soothe sore muscles.
- Iroquois brewed a tea to treat dysentery, colds, and coughs.
- Since, studies have found witch hazel to contain compounds and oil that give it astringent action to stop bleeding.



American Witch-hazel
(*Hamamelis virginiana*)

Citations

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- [2] "Mountain-Laurel." *Mountain-Laurel on the Tree Guide at Arborday.org*. Arbor Day Foundation, n.d. Web. 05 Dec. 2016. <<https://www.arborday.org/trees/treeguide/TreeDetail.cfm?ItemID=873>>.
- [3] Barber, Abby. "Twelve Native Milkweeds for Monarchs." *The National Wildlife Federation Blog*. National Wildlife Federation, n.d. Web. 05 Dec. 2016. <<http://blog.nwf.org/2015/02/twelve-native-milkweeds-for-monarchs/>>.
- [4] Graham, Linda E. Graham, James M. Wilcox, Lee W. "Seedless Plants." "Gymnosperms, the First Seed Plants." "Angiosperm Diversity and Reproduction." *Plant Botany*, Third Edition, online format, LJLM Press, LLC, 2015

All photos taken from plants.usda.gov unless noted otherwise.