

# Appalachian Trail Botany Book

*By Mahalakshmi Srinivasan and Rahul Raina*

*Please note:*

*This botany book is not meant to cover every plant you will encounter on the trail, only some of the most common, most useful, most interesting plants.*

# Birch



*Life form:* broadleaved deciduous hardwood tree

*Taxonomy:* *Betula pendula*

*Common names:* silver birch or warty birch

*Typical size:* medium sized, 49 – 82 feet tall

*Visible features:* White flaky bark, with dark irregular bands on it; leaves have short, slender stalks and are long, triangular with double-toothed margins; cylindrical catkins with numerous seeds separated by scales

*Seeds:* Large number of winged seeds that are separated by scales and ripen in the late summer.

*Pollination:* wind-pollination

*Other notes:*

When young, the bark is golden-brown, but turns white as it ages due to the development of white papery tissue. Their open canopy doesn't hinder sunlight from reaching the ground, so a variety of other small plants are able to survive in close proximity with this tree. This particular species is invasive to North America, as it originates from Europe.

*Practical uses:*

Birch has a place in medicine, as it is used as a diuretic and is helpful to reduce blood pressure and cholesterol, among other health benefits.

*Cultural significance:*

Very significant in Native American culture, as the wood was used for a number of essential tools for their survival. They also believed them to be lightning proof, so often used them for shelter. Additionally, people born between December 24<sup>th</sup> and January 20<sup>th</sup> in the Celtic Zodiac are said to be under the sign of The Birch.

# Blackberry



*Life form:* Fruit

*Taxonomy:* *Rubus fruticosus*

*Common names:* Common Blackberry

*Typical size:* Few centimeters

*Visible features:* Black consisting of many small "drupelets"

*Seeds:* The berry is the seed of the plant

*Pollination:* Flowers are pollinated by bees

## *Other notes:*

Blackberries are often mixed up with black raspberries. The main difference is that when picked, the stem of a blackberry stays in the fruit, whereas the stem remains on the plant for raspberries.

*Practical uses:*

*Used for food – they can be eaten as are, in jams, or as wine.*

*Cultural significance:*

*In the United Kingdom, it is believed that on October 11, Old Michaelmas Day, it is bad luck to pick blackberries. Other than that, they were believed to have protective powers against spells and curses.*

# Blueberries



*Life form:* Fruit

*Taxonomy:* *Vaccinium boreale*

*Common names:* Northern blueberry

*Typical size:* The fruit is 5-16mm in diameter

*Visible features:* Deciduous, evergreen, ovate, or lanceolate leaves with bell-shaped flowers that are white, pink, or red; berries are blue or purple when ripe, and light green when young.

*Seeds:* As fruit, the berry itself is considered a seed. However, they have small seeds inside the fruit itself.

*Pollination:* Flowers are pollinated by bees

### *Other notes:*

*Blueberries can be used to help prevent memory loss by clearing toxic proteins in the brain. They grow very well in slightly acidic environments, and especially grow well in Maine, the blueberry production capital of North America.*

### *Practical uses:*

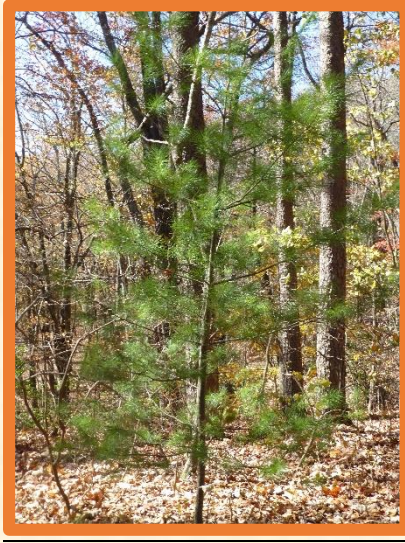
*Used as food – can be consumed as the berry, or as jams, in baked goods, or cereals.*

### *Cultural significance:*

*Blueberries were an important part of the diet of early settlers in the Americas when food was scarce. Blueberries were used as paint and dye by Native Americans and other groups.*



# Hemlock



*Life form:* evergreen conifer

*Taxonomy:* *tsuga canadensis*

*Common names:* spruce pine, hemlock spruce, weeping spruce

*Typical size:* 40-70 feet tall

*Visible features:* pyramidal shape; branches that seem to droop gently; dark green leaves that are shiny above and silvery beneath; feathery evergreen needles

*for leaves; twigs can over each other scaly bark; seed cones are typical oblong and cylindrical and grow singly;*

*Seeds:* 2-4mm long, found in seed cones

*Pollination:* pollination by wind

### *Practical uses:*

*The needles can be used as medicine to treat healing burns. Oil from the twigs can be used as flavoring.*

### *Interesting facts*

*They can grow to be 600 years old and the greatest record age is 998 years old.*

*The Iroquois Native Americans use Hemlock needles to make pine needle tea which is high in vitamin C.*

# Hickory



*Life form:* deciduous canopy tree

*Taxonomy:* Carya ovate

*Common names:* shagbark hickory, hickory

*Typical size:* 60-80 feet tall

*Visible features:* trunk has long, peeling strips of bark; branches and leaves of the tree form oval-shaped crowns; leaves are long with five leaflets; flowers are in catkin form at the tip of old wood

*Seeds:* nuts with a hard, bony shell in a thick, green husk

*Pollination:* wind-pollinated

*Practical use:*

The nuts of the hickory tree are edible and can actually taste really sweet. The wood burns really well so it can also be used for smoking meat. Native Americans will often use the wood to make bows.

*Cultural significance:*

Former American president, Andrew Jackson, was nicknamed "Old Hickory", which was a play on the sheer strength of hickory wood. The gravesite where Mr. Jackson was buried had 6 hickory trees around the area.

# Maple



*Life form:* Most types are deciduous

*Taxonomy:* *Acer pseudoplatanus*

*Common names:* Sycamore maple

*Typical size:* Most range between 33 and 148 feet. However, some shrubs can be less than 30 feet

*Visible features:* Lobed leaves with pointed edges, with either five, seven, or nine leaflets on each leaf; flowers have four or five petals; "helicopter" seeds.

*Seeds:* Fruit called samaras, or "helicopters" that come in pairs, with seeds in each nutlet.

*Pollination:* Pollination from bees, seeds spread through the wind.

*Other notes:*

It is difficult for other plants to grow very near maples due to their dense and fibrous root system. It takes almost 50 gallons of tree sap to make about one gallon of maple syrup. To avoid hurting the trees, only a small amount of sap is taken from each tree.

*Practical uses:*

Maple is used commercially for maple syrup and timber.

*Cultural significance:*

The maple leaf is featured on the Canadian Flag and coat of arms. It is a symbol of strength and endurance.

# Moss



*Life form:* Bryophytes (Small, flowerless plant)

*Taxonomy:* Bryophyta

*Common names:* moss

*Typical size:* 1-10 cm tall, though some can grow up to five times that height

*Visible features:* dense, green plant; thin stem covered by one-cell thick leaves

*Seeds:* No seeds, moss just releases spores

*Pollination:* Moss forms haploid (single chromosome) spores which then get spread by the wind

*Other notes:*

Though they are often confused with liverworts and hornworts, moss isn't directly related with either. They do not have any vascular systems, but survive



*by harvesting carbon dioxide and using the sun for photosynthesis and absorbing water and nutrients through their leaves.*

### *Practical uses:*

*Before the industrial era, moss was used for bedding, dressing wounds, and absorbing water. These days, mosses are used for decoration, fuel, the production of Scotch whisky, and medical research.*

### *Cultural significance:*

*Many nurses and soldiers relied heavily on moss to bandage wounds on the battlefield during World War I. Peat moss was also used to make bread during famines in Finland.*



# Oak



*Life form:* deciduous tree

*Taxonomy:* *Quercus pedunculata*

*Common names:* oak, common oak

*Typical size:* 65-85 feet tall, 3-4 trunk diameter

*Visible features:* has acorns, often in pairs attached to twigs; spirally arranged medium-green leaves; flowers in catkin form which is an elongated cluster of flowers lacking petals

*Seeds:* nuts called acorns

*Pollination:* typically wind-pollinated

*Other notes:*

*Acorns can be poisonous to humans if they have not been processed and leached of tannins.*

*Practical uses:*

*Wood chips can be used to smoke meat, cheese, and other food.*

*Cultural significance:*

*In Greek mythology, oak trees are considered sacred to Zeus and the rustling of oak leaves would be interpreted by priests.*

*The oak is also a symbol of endurance and strength, especially in the United Kingdom where it is the symbol of the Conservative Party.*

# Rhododendron



*Life form:* ever-green shrub-tree

*Taxonomy:* *Rhododendron maximum*

*Common names:* great laurel, white laurel, rosebay

*Typical size:* 40 feet tall, 25 feet wide

*Visible features:* crooked trunk with multiple stems growing up; contorted branches; leathery, dark green leaves; oblanceolate or narrow elliptical leaf shape; white or rose-colored flowers; oblong, capsule-shaped fruit

*Seeds:* fruit each contain 300-400 seeds about 1/32" long

*Pollination:* insect-pollinated

### *Other notes:*

*Occurs in the Appalachian undergrowth so it is visible low to the ground, lining most of the trail and scattered in the undergrowth around the area.*

### *Practical uses:*

*The wood can be used to make handles for tools. It is often used to make home remedies. Specifically, the leave can be ground into a salve to apply to the forehead to relieve a headache.*

### *Cultural significance:*

*This particular type of rhododendron is the state flower of West Virginia and can even be found on the state's flag.*

# Sulphur Shelf Mushrooms



*Life form:* fungus

*Taxonomy:* laetiporus sulphureus

*Common names:* sulphur shelf, chicken mushroom, chicken of the forest

*Typical size:* individual shelves are about 5-25cm across

*Visible features:* grow in shelves of tubular filaments; moist, rubbery body; sulphur-yellow to orange body; bright orange tips; grows in large brackets on other trees/

*Seeds:* spores

*Pollination:* spores are spread through the wind

*Practical uses:*

*It is edible and many people say it tastes like chicken. It must be noted, however, that it is only edible in certain cases. If the mushroom is found on a conifer or locust tree, it should not be eaten. Some people have allergic reactions to this mushroom so be wary. Sometimes only the edges of the mushroom caps are tender enough to cook unless you have the time and fuel for a slow, wet simmer to soften the tougher parts.*

*Other notes:*

*Sulphur shelf mushrooms are typically found on large oak trees, logs, and stumps. It is usually found on decomposing dead trees but sometimes lives as a parasite on living trees as well*

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