High Hampton

TREES & SHRUBS

Introduction

The natural setting surrounding High Hampton Inn is a wonderful environment to experience the rich and varied floral display of the southern Appalachian Mountains.

This interpretive guide contains information on the natural history of some of the interesting trees and shrubs growing along portions of the Chattooga Ridge, Headwaters, Azalea and Lake Trails. Each interpretive station is marked by a numbered post. The complete loop is approximately 1.2 miles and takes about one hour along easy to moderate trails.

Inquire at the front desk of the Inn for information about other hiking trails in the vicinity that provide a variety of experiences and views.

SPECIMEN TREES AT THE INN

The large trees growing in the lawn areas around the Inn were planted in the early 1900s by Dr. William Halsted and Mr. and Mrs. E. L. McKee, Sr. Of particular notice is the world's largest specimen of Fraser Fig (*Abies fraseri*).

1. Beech, European Copper
2. Beech, Weeping
3. Coffee Tree, Kentucky
4. Cypress, Bald
5. Elm, English
6. Gingko
7. Larch, European
8. Locust, Black
9. Magnolia, Umbrella
10. Maple, European
11. Maple, Sugar
12. Pine, White
13. Princess Tree
14. Spruce, Norway
15. Tulip Tree
16. Yew, English (shrub)

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STATION 1.

American Chestnut

The Smerican chestnut (*Castantea dentata*) was one of the largest, most valuable, and most abundant, species in the southern forest. Gone are the days when the chestnut reached 100 feet or more into the forest canopy, providing a dependable crop of sweet nuts of wildlife and people. Gone are those trees that produced beautiful shade, tannin-rich bark for the tanning industry, and weather-resistant timber for such products as crossties and split-rail fences. Today all that is left of this former monarch are small root sprouts that may occasionally reach 15-40 feet in heigh, then flower, fruit, and succumb.

During the first quarter of this century, the American chestnut went from being “queen of the forest” to near extinction, from bountiful provider to giant gray skeleton. The chestnut blight, caused by the fungus Endothia parasitica, was accidentally imported to New York City on Chinese chestnut trees. In 1904, the first reports of chestnuts dying came from the Bronx Zoo, and by the 1920s wind and insects had spread the fungal spores through most of the chestnut’s natural range, including the southern Appalachians. By 1940, an estimated 3.5 billion trees had been killed.

The gaps in the forest left by the dead and dying chestnut were quickly filled by a variety of other trees, predominantly northern red oak, chestnut oak and tulip poplar. Much research has been done and is still under way to try to save the American chestnut by breeding resistance to the fungus into the tree species, and by developing strains of the fungus which are not deadly to the tree.

STATION 2.

Sweet Shrub

During the late spring and early summer, the dark maroon flowers of sweet shrub or Carolina allspice (*Calycanthus floridus*) sweeten the afternoon breeze.

In earlier times, young girls would gather a handful of the aromatic flowers and wrap them in a handkerchief to be used as a natural perfume. Sweet shrub was often planted near a front or back door to allow the sweet bouquet to drift throughout the house.

As summer turns into fall, the large brown pods, which look like moth cocoons, can be seen on the bare branches. Look closely at the pod- is one side chewed open? Each pod contains a dozen or so large brown fruits (“seeds”) which are a favorite flood for the small rodents of the forest.

Sweet shrub grows rapidly, has brilliant yellow fall foliage, is easily prunded, and makes an excellent landscape shrub.

STATION 3.

Sassafras

Sassafras (*Sassafras albidum*) is often called “the tree that wears mittens,” in reference to the varied leaf shapes that grow on a single tree. Many people will recognize its fragrant green stems or bright orange-red fall color. In early spring, the small clusters of yellow flowers are distinctive.

In addition to its aesthetic value, this small deciduous tree has many culinary and medicinal uses. Sassafras tea made from the bark of the roots has been a celebrated tonic for hundreds of years. It was in such high demand during the 18th century that sassafras root bark was a leading export for the American colonies. The young levels can be collected, dried and powdered in the early spring to make a filé, a natural thickening agent for Southern soups and stews.

STATION 4.

Fraser Magnolia

The geologic record shows that the ancestors of today’s magnolias were a significant part of the forests nearly 100 million years ago, when dinosaurs ruled the earth. Today magnolias are found primarily in the southeastern portions of Asia and the United States. A little over 200 years ago, the deciduous Fraser magnolia (*Magnolia fraseri*) was “discovered” and named after John Fraser, a Scoth botanist who first introduced the tree into Europe.

Fraser magnolia, or, as it is sometimes called, mountain magnolia, rarely exceeds 40 feet in heigh or 18 inches in diameter. The lobed bases of the nearly foot-long leaves are a unique feature among the manolia species native to the mountains of North Carolina. The large creamy-white flowers blossom in April and May, and are followed by bright red, oblong fruit in late summer and early fall. Later in the fall the bold foliage turns a beautiful lemon-yellow to rich copper color. The smooth grey bark is reminiscent of beech bark.

STATION 5.

Eastern Hemlock

First of all, this graceful evergreen tree is not the “hemlock” that poisoned Socrates. The poison hemlock is an herbaceous plant rather than a tree and is closely related to carrots, parsley, and celery.

Eastern hemlock (*Tsuga canadensis*), sometimes called Canadian hemlock, is native to most of northeastern North America. It is common in the northern part of its range, but largely restricted to cool, moist coves of the Appalachian Mountains farther south.

The flattened, one-inch long needles are dark green above with two silvery-white lines beneath. For the most part, the needles are attached to either side of branchlets, much like a feather. A close relative, but less common southern species, Carolina hemlock (*Tsuga carolina*), has needles that are a bit longer and arranged more uniformly around the branchlets, bottle-brush fashion. The tan-to-brown cones of Eastern hemlock are just under an inch long, while those of Carolina hemlock are nearly an inch and a half long.

Some Indian tribes used hemlock resin as a medicine and brewed a tea from the needles. More than a century ago, huge hemlock trees were sometimes felled, stripped of their bark (for tannic acid to tan leather) and then left to decay slowly. The wood was considered hard yet brittle and inferior to white pine.

SECTION 6.

Oaks

The oaks (*Quercus* spp.) comprise one of the most widely-known and useful groups of trees. For centuries the oak tree has been a symbol of strength and durability because its wood is just that. In addition to being a useful timber tree, the oak also provides tannin for making animal hides into leather, and the acorns provide food (or “mast”) for many forest animals. The largest trees are prized for their shade.

Approximately ten species of oaks are native to western North Carolina, with white, red, and chestnut oak being among the most abundant. Oaks are easy to recognize by their characteristic fruit, the acorn, but are often more difficult to identity to species. Hower, it is helpful to know that oaks can be divided into two distinguishable groups, white oaks and red oaks, as shown below:

WHITE OAK GROUP

- Bark is usually light
- Leaves have rounded lobes
- Acorns mature in single season
- Inside acorn shell is smooth
- Acorn kernel is mildly bitter

RED OAK GROUP

- Bark is usually dark
- Leaves have bristle-tipped lobes
- Acorns mature in two seasons
- Inside acorn shell is hairy
- Acorn kernel is very bitter

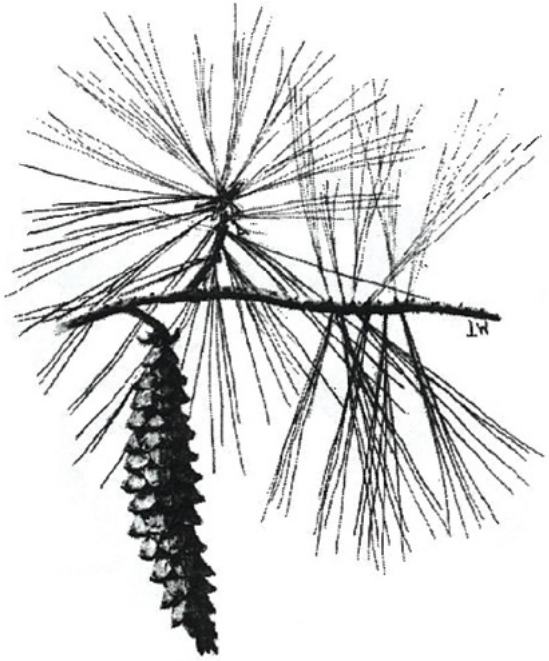
STATION 7.

White Pine

The largest pine in the United States is the white pine (*Pinus strobus*), which may reach 100 feet in heigh and four feet in diameter. A few distinctive characteristics make its identification easy. The delicate, blue-green needles are arranged in bundles of five, unlike any other pine east of the Mississippi River. The cones, which take a second year to mature, are slender, leathery, slightly curved, and up to eight inches long. Lastly, the main branches form a whorl about the trunk, with each whorl marking a year of growth.

In colonial times, the Indians taught the settlers about the medicinal value of white pine. The inner bark or a boiled extract of it was eaten for food and was an ingredient in cough medicine. The bark was also applied to wounds to soothe pain, as was the gum or resin of the tree.

For the last 300 years, white pine has been one of the most important timber trees. Its straight grain and soft yet durable wood make it the preferred lumber for a wide variety of products, including masts for the 18th century Royal Navy, matchsticks, houses, barns, furniture, and coffins.



STATION 8.

Turkey Brush

Perhaps you already known the small evergreen plant sprawling across the forest floor. Is it turkey brush, turkey's foot, running cedar, running pine, ground pine, or princess pine? The answer is yes. This and several other species of clubmoss native to the Carolinas are known by these and other descriptive and fanciful common names. In order to reduce the confusion created by multiple names, a scientific binomial name is used- in this case *Lycopodium flabelliforme*.

Clubmosses are closely related to ferns, both of them non-flowering plants which reproduce sexually by spores rather than seeds.

In days gone by, the yellow dust-like spores of clubmosses were collected in large quantities and sold to early photographers. The oily, highly volatile spores were ignited to create a bright flash of light- the forerunner of the flash bulb!

Today clubmoss is treasured as a decorative evergreen and gathered during the holiday season. Although most clubmoss species are not considered endangered, a few municipalities have laws forbidding its sale within the city limits-a measure aimed at reducing the amount collected of these rather slow growing plants.

STATION 9.

Buckberry

Across this sloping ridge of well-drained, acid soil grows one dominant shrub, a species of huckleberry two to four feet in heigh called buckberry (*Gaylussacia ursina*). Once established, its spreading habit enables it to form dense colonies which can cover several acres or more.

Buckberries produce inconspicuous flowers in late spring and early summer, but by early fall these are transformed into small, yet delicious, black fruit. The sweet fruit is an important food for a wide range of wildlife, making it sometimes difficult for humans to gather enough for a tasty pie filling.

Blueberries (*Vaccinium* spp.) are closely related to buckberries and huckleberries, all of which are members of the heath family (Ericaceae). One of the main differences between huckleberries and blueberries is the size and number of seeds in the fruit. Hucklberries have five large crunchy seeds per fruit, while blueberries have ten almost undetectable seeds per fruit. This lack of objectionable seeds in blueberries probably accounts for its wide cultivation as an edible fruit.

STATION 10.

Flame Azalea

Many of the large deciduous shrubs growing in this part of the forest are flame azaleas (*Rhododendron calendulaceum*), one of the most attractive plants native to the southeast United States.

Its vivid yellow, orange, or fiery-red flowers are highlighted against a backdrop of fresh spring foliage each May and June. While the beauty of flame azaleas is no secret to residents of the southern Appalachians, little has been done to bring this native gem into commercial cultivation. However, British plant breeders have incorporated some of the natural beauty and vigor of flame azaleas into a number of deciduous azalea hybrids.

Upon close inspection, you may notice an occasional, bizarre-looking growth on some of the young branches. This abnormal green-to-whitish succulent growth (actually a diseased leaf) is a gall called “pinkster apple,” caused by the fungus *Exobasidium vaccinii*. It is not a serious plant disease, although it does detract from the beauty of this colorful native.

STATION 11.

Tulip Tree

The tulip tree (*Liriodendron tulipifera*) is one of the largest trees of the southeastern forest, attaining a heigh of 150 feet and a diameter of ten feet at maturity. As tulip trees mature, the lower branches “self prune,” producing straight, branchless trunks. The resulting knot-free lumber is ideally suited for many uses, notably furniture-making and plywood. When this country was being settled, the tulip tree was often the tree of choice for log cabin construction.

The distinctive four-lobed, deciduous leaves of the tulip tree have indented or squared-off tips, unique among native trees. Both the scientific and common names refer to the attractive but often overlooked chartreuse, orange and yellow tulip-shaped flowers that appear each spring. Frequently their only sign is a scattering of shredded petals dropped by foraging squirrels or the buzz of honey bees gathering the plentiful pollen and nectar.

Many people call this tree tulip poplar or yellow poplar, but since it is not even a close relative of poplars or aspens, it is less confusing to use the common name tulip tree.

STATION 12.

Witch Hazel

Witch hazel (*Hamamelis virginiana*) is a large shrub with rather non-descript leaves, except for two details. First, upon close inspection, the base of ever leaf is not symmetrical but is uneven or "oblique." Compare this to other leaves of the forest. Secondly, you may notice a small "witch's cap" or spur-like projection on the tops of many of the leaves. This is a gall formed by an aphid, *Homaphis hamamelidis*. In the spring, the female aphid chews a small hole on the underside of the leaf and lays her eggs there. This "irritation" causes a gall to form on the upper side of the leaf. By summer, the young aphids are able to chew their way out and fly to nearby birch trees to complete their life cycle.

The bright yellow flowers of witch hazel are best described as spider-lie, with four long, slender, twisting petals. Look for these in the fall as they signal the end of the growing season. The one-half inch long woody capsule that is later formed will remain on the platn for nearly a year before "exploding" and "shooting" the two shiny black seeds off into the distrance.

For generation witch hazel has been held in high regard for its reputed supernatural qualities. Dowsers or "water witches" have counted on a forked branch of witch hazel to guide them to underground water, buried treasure, and precious minerals. A salve or lotion, distilled from all parts of the plant and mixed with alcohol, is still used to help heal minor cuts and bruises.

STATION 13.

Alternate-leaved Dogwood

Nearly everyone is familiar with the attractive "flowers" of flowering dogwood (*Cornus florida*), made up of small clusters of tiny yellow flowers surrounded by four showy white bracts. Flowering dogwood also has opposite branches (most other trees have alternate branches), that arch gracefully at their tips.

The small tree before you with smooth, tan branches is also a dogwood, although it does not produce the showy "flowers" characteristic of flowering dogwood. It is a northern species that has spread south along the cool, moist southern Appalachians. True to its name, alternate-leaved dogwood (*Cornus alternifolia*) has alternate leaves and an alternate branching pattern, making it unique among dogwoods.

A useful mnemonic device to help learn the main groups of trees with opposite branching, maples, ashes, and dogwoods is to remember that "only dogs get M.A.D." Alternate-leaved dogwood is the lone exception.

STATION 14.

Nurse Tree

Competition is fierce in nature, even among the beautiful trees, shrubs, and herbs of the forest. Sunlight, water, and nutrients are quietly "fought over" by entangled root systems and branches of neighboring plants.

The large fallen tree suddenly created a very narrow slice of forest which was uninhabited. Today, the decaying trunk has become a "nurse tree" providing a site for young plants to become established. Eventually the "nurse tree" will completely decay, leaving little or no trace of its existence except for a sliver of vegetation which otherwise might not have survived.

STATION 15.

Buffalo Nut

Buffalo nut (*Pyrularia pubera*) is a member of the sandalwood family, which includes the fragrant and economically valuable tropical sandalwood tree. Although buffalo nut does not process the charm or mystique of its relative, it is an unusual member of the southern Appalachian flora. A rather nondescript shrub, buffalo nut produces a spike of small greenish flowers in April and May and a poisonous, round, quarter-sized fruit in the fall. The plant is semi-parasitic on the roots of nearby deciduous trees and shrubs.

Buffalo nut is a remnant from a time when the vegetation of the world was more uniform than it is now. Over millions of years, with the slow but sure process of continental drift and recurrent ice ages that clear portions of the earth's landscape and displace the vegetarian patterns to warmer climates, some species evolve, others are lost, and some become isolated.

Buffalo nut is an example of a plant (along with the magnolias, azaleas and tulip poplar) this is now isolated from its closest relatives on the other side of the world.

STATION 16.

Red Maple and Sugar Maple

Red maple (Acer rubrum) and sugar maple (Acer saccharum) are similar to each other, yet quite different. Both are members of the same genus (Acer) and therefore have some common traits, such as their early spring flowering and their winged fruits which are joined in pairs. Both have lobed leaves attached opposite one another along the stem.

The differences between these two maples are interesting as well as helpful in determining their identification. The leaves of sugar maple have five lobes, each separated by a U-shaped sinus, while red maple leaves generally have three lobes with two smaller ones, each separated by a V-shaped sinus. The leaf margin of sugar maple is essentially without teeth, while the leaf margins of red maple are continuously, though irregularly, toothed. Sugar maple is common throughout the northeastern United States, but is essentially restricted to the mountains near the southern end of its range in North Carolina. On the other hand, red maple is ubiquitous throughout eastern North America.

Sugar maple is the tree of choice when it comes to the production of maple syrup, only requiring 35-50 gallons of tree sap to make a gallon of syrup. Syrup could also be made from red maple sap, but the ratio would be closer to 200 gallons of sap for one gallon of syrup. Sugar maple is considered a “hard maple” because its wood is strong, hard, and fine-grained. Red maple is considered a “soft maple” due to its less durable, light, and softer wood.

Check List of Some of the Native Trees and Shrubs at High Hampton Inn

TREES

1. Ash, American
2. Beech, American
3. Birch, Cherry
4. Cherry, Wild
5. Chestnut, American
6. Dogwood, Alternate-leaved
7. Dogwood, Flowering
8. Fir, Fraser
9. Gum, Black
10. Hawthorn
11. Hemlock, Canadian
12. Hemlock, Carolina
13. Hickory, Mockernut
14. Hickory, Pignut
15. Holly, American
16. Holly, Mountain
17. Horse Sugar
18. Locust, Black
19. Magnolia, Fraser
20. Magnolia, Umbrella
21. Maple, Red
22. Maple, Striped
23. Maple, Sugar
24. Oak, Black
25. Oak, Chestnut
26. Oak, Red
27. Oak, Scarlet
28. Oak, White
29. Pine, Pitch
30. Pine, White
31. Sassafras
32. Serviceberry
33. Silverbell, Carolina
34. Sourwood
35. Spruce, Red
36. Tulip Tree
37. Walnut, Black
38. Walnut, White

SHRUBS

- Azalea, Flame
- Azalea, Pink-shell
- Buckberry
- Buffalo Nut
- Chinquapin
- Chokeberry
- Dog-hobble
- Fetter-bush
- Fringe Tree
- Hazel Nut
- Hydrangea, Mountain
- Mountain Laurel
- Mtn. Sweet Pepperbrush
- Rhododendron, Carolina
- Rhododendron, Purple
- Rhododendron, Rosebay
- Sand Myrtle
- Spicebush
- Sweet Shrub
- Witch Hazel
- Witch Hobble
- Yellowroot

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