



Lily-of-the-Valley (*Convallaria majuscula*)

A Botanical Tour

BUCK SPRING NATURE TRAIL

Blue Ridge Parkway



Beaked Hazelnut (*Corylus cornuta*)

This fairly level one mile path is a section of the longer Buck Spring Trail. The botanical tour begins at the Pisgah Inn parking lot (milepost 408.6 on the Blue Ridge Parkway) and ends at the hunting lodge site near Buck Spring Gap overlook (milepost 407.7) and returns via the same route.

Along the trail you will see an extraordinary concentration of plant species. Much of this diversity is due to the fact that it passes through what, despite the southern location, is termed a "Northern hardwoods forest"--the vegetation zone lying between the high altitude spruce-fir forests and the eastern deciduous woods that occupy vast areas at lower elevations.

In the fall, many trees, shrubs, and woody vines drop their leaves, and herbaceous plants wither or disappear completely. Some can be recognized even in winter, however, by their empty seed pods or other fruiting structures.

To minimize the impact of heavy trail use upon these plants, please stay on the established path.

1. Highbush Blueberry (*Vaccinium corymbosum*)

Although they are not as large and succulent as the "improved" varieties that are grown commercially, wild blueberries are delicious and have a special tangy flavor of their own. The heath family, to which they belong, is a predominantly northern group of plants requiring acidic soil. It is well represented here by such shrubs as Mountain Laurel, the Rhododendrons and Azaleas, and Minnie-bush, as well as Trailing Arbutus and even Indian Pipe. Only one tree in this family, Sourwood (*Oxydendrum arboreum*), is present here.

2. Canada Mayflower (*Maianthemum canadense*)

Canada Mayflower is common in the northeast, where it spreads over large areas; but, here, where it approaches the southernmost limit of its range, the colonies are smaller. Its floral parts are in sets of four, which is unusual because most other members of the lily family are three- or six-parted. Canada Mayflower is one of the first plants to bloom in the spring.

3. American Chestnut (*Castanea dentata*)

It is hard to believe that less than a hundred years ago the American chestnut was a dominant tree of the eastern forests. An alien fungus has virtually wiped it out; and, although stump sprouts persist and often produce nuts, they are almost certainly doomed. Nonetheless, a large American Chestnut can be seen in this location. A related shrub, Allegheny Chinquapin (*C. pumila*), also grows along the trail and might be mistaken for chestnut, but the lower surface of its leaves is white-downy instead of light green and smooth.

4. Deerberry (*Vaccinium stamineum*)

Unlike its relatives the blueberries, Deerberry has fruits that remain green and hard and are inedible, but its many blossoms, with their long-protruding stamens, appeal to the eye in the spring. Another common name for this shrub is Highbush Huckleberry.

5. Starry Campion (*Silene stellata*)

Blooming in the summer, the white flowers of Starry Campion with their bowl-like calyces and fringed petals are an attractive feature of the mountains. Fire Pink (*S. virginica*) is a related species; it is impossible to miss, as its five bright red petals stand out vividly against the green background of the woods. Several Early Meadow Rue (*Thalictrum dioicum*) plants can be seen here. Male and female flowers are present on separate plants (they are dioecious). Look for the showy pendulous flowers of the male plant and the small white flowers of the female.

6. Wild Bergamot (*Monarda clinopodia*)

This species is abundant in the cool mountains and can be distinguished by its purple-spotted white corollas. A red *Monarda* (*M. didyma*) may be seen in wet ditches along the Parkway. Although it is native, it has been cultivated for many years by gardeners, who call it Oswego-tea, and is a favorite of hummingbirds.

7. Mountain Holly (*Ilex montana*)

This is one of the deciduous hollies--that is, it loses its leaves in the fall. Except for its bright red berries, it is very unlike American Holly (*I. opaca*), which has spiny evergreen leaves and is used extensively for Christmas decorations; the latter is a common understory tree in the south but does not grow at this high altitude.

8. Solomon's Plume (*Maianthemum racemosum*)

Although they have similar leaf arrangements, Solomon's Plume and Solomon's-seal cannot be confused, whether they are in flower or in fruit. Solomon's Plume has creamy white flowers in a branched pyramid at the end of the stalk, and the berries are reddish and speckled. In the Solomon's-seals (*Polygonatum spp.*), which also are frequent along this trail, the flowers are bell-shaped, greenish, and dangle beneath the leaves. These are succeeded by dark blue berries. As each year's stem of Solomon's-seal dies back, it leaves a round scar on the creeping rootstock, and these are what suggested the common name.

9. Vines

The arching stems of the Blackberries (*Rubus sp.*) in this bramble-patch support a number of vines, among them Leather-flower (*Clematis viorna*), which bears red-purple urn-shaped flowers formed of thick, fleshy sepals, and the very dissimilar white-blossomed Virgin's Bower (*C. virginiana*). Others are more interesting for their fruits; Wild Yam (*Dioscorea villosa*) has strings of parchment-like capsules, while Carrion-Flower (*Smilax herbacea*), a thornless relative of the catbriers, produces dense round clusters of yellowish-green foul smelling flowers in the late spring, followed by green berries that ripen to a dark blue color.

10. Minnie-bush (*Menziesia pilosa*)

Blooming in the late spring, Minnie-bush has flowers like those of a blueberry and fruit and leaves like an azalea. A good clue to identifying it is the callous at the tip of each leaf, looking like a tiny drop of white paint.

Beaked Hazel (*Corylus cornuta*)

Nearby are several Beaked Hazels, which are among the most abundant shrubs along the trail. The hairy green bracts, that enclose the nuts of this species, fuse together and form a long, narrow tube. In American Hazel (*C. americana*), which also grows here, these bracts look like leaves with ragged edges. This makes it easy to tell them apart - provided you find the nuts before they are harvested by squirrels and other wildlife!

Horse-balm (*Collinsonia canadensis*)

A few yards farther along you will begin to see Horse-balm, a perennial herb that combines very large leaves with small, delicate flowers which are worth examining closely. Their structure shows the plant to be a member of the mint family, which may come as a surprise because it has a subtle fragrance, more like lemon than mint.

11. Primitive Plants

Along the right-hand edge of the trail are a number of non-flowering plants (which reproduce by means of spores rather than seeds). Mosses are represented by the flat, aptly-named Fern Moss (*Thuidium*) and the upright "bottle-brush" stems of Haircap Moss (*Polytrichum*). Lichens - which are composed of fungus and an alga living together in an apparent mutually beneficial arrangement - vary from the whimsical Pixie Cups to the fragile multi-branched tufts of Reindeer Lichen, so called because some arctic forms are important food for caribou; both are species of *Cladonia*. Behind these may be seen the tapered fronds of New York Fern (*Thelypteris noveboracensis*).

12. Lily-of-the-Valley (*Convallaria majuscula*)

At first glance, these may appear to be cultivated Lilies-of-the-valley that have escaped from someone's garden, but actually they are a variety thought to be native to the southern Appalachians. One difference that will be readily apparent is that the mountain plants do not grow in densely crowded colonies as do those of European origin. Note the large patch of Cinnamon Ferns (*Osmunda cinnamomea*) growing nearby.

13. Witch Hazel (*Hamamelis virginiana*)

Witch Hazel is the last of all our trees to bloom, its yellow, ribbon-like flowers not opening until mid-September or later. When the woody seed capsules mature, they suddenly burst open with a loud "pop" and eject the seeds for long distances. This is its method of populating new areas.

14. Red Spruce (*Picea rubens*)

Red Spruce is the predominant evergreen tree in the area. A boreal species, it is widespread in Canada and New England but ranges south only as far as North Carolina and there, only in the high mountains. Superficially, it resembles Fraser Fir but has cones that hang downward and has sharp pointed needles.

15. Catawba Rhododendron (*Rhododendron catawbiense*)

This is the rose-purple rhododendron that has become world famous for its early summer displays on the open, sun-drenched mountain balds. It is also the native species from which many horticultural varieties have been obtained. Although it has created its own dark tunnel of shade here, there is no tree canopy above it to block the light. Very few other plants can grow in dense rhododendron thickets, but the ghostly white Indian Pipe (*Monotropa uniflora*) is one that does. It feeds on decayed, organic material and, having no chlorophyll, does not need sunlight for photosynthesis. Also, the gray threads of Old Man's Beard lichen (*Usnea sp.*), which can exist without contact with the soil but needs a humid environment, can frequently be seen hanging from the branches.

16. Galax (*Galax aphylla*)

These beds of Galax are a beautiful sight in summer when slender spires of little white flowers arise from the glossy evergreen foliage. Galax leaves often turn dark red or bronze in winter, especially when growing in full sun.

17. Mountain Fetterbush (*Eubotrys recurva*)

One of several shrubs in the heath family to share this common name, *Eubotrys recurva* bears graceful racemes of white urn-shaped blossoms in early spring before the leaves appear. At that time the plants are inconspicuous, and the fragrance of their flowers often gives the first hint that they are nearby.

18. Painted Trillium (*Trillium undulatum*)

Plants of Painted Trillium, whose flowers appear briefly in early spring, are scattered here and there on both sides of the path. Despite its dainty appearance, this crimson-striped species thrives on the cold summits of our loftiest mountains. While other trilliums may also be seen here, they do better in protected coves at lower elevations. All trilliums have three leaves, petals, sepals and stigmas, and six stamens, although you may see some mutants here if you look carefully!

19. Smooth Hydrangea (*Hydrangea arborescens*)

One of two native Hydrangea found in this area, Smooth Hydrangea can be distinguished from Snowy Hydrangea (*H. radiata*) by having leaves that are green below, rather than white. The large, flat, whitish flower head is composed of both fertile and sterile flowers. The numerous small central flowers are fertile. Look closely to see the five tiny petals. The few showy sterile flowers have 3 or 4 white bracts. In late summer ribbed seed capsules develop. The tiny seeds are dispersed by wind or water. In addition, *H. arborescens* can spread by underground root runners, often creating dense plant colonies.

20. Sign 20 is missing!

21. Mountain Laurel (*Kalmia latifolia*)

A relative of the rhododendron, Mountain Laurel is another spectacular late spring blooming heath shrub. Each of its white to pink cup-shaped flowers has ten curved stamens with their anthers tucked into little pockets. When a bee alights, its weight releases the spring tension and the stamens snap out and over the insect, showering it with pollen. On contact with the next flower, some of this is brushed off on its stigma, and this helps to promote cross-fertilization.

22. Oriental Bittersweet (*Celastrus orbiculatus*)

This invasive climbing vine was introduced into this country from Asia. The fast growing vines can cover, shade, and out-compete other vegetation, and girdle and kill large trees. Its flowers are inconspicuous, but in the autumn its bright red fruits are revealed when the round orange husks split open into three spreading segments. Birds and other wildlife eat the fruit, thus distributing the seeds. It hybridizes with native American Bittersweet (*Celastrus scandens*) potentially leading to loss of genetic identity for the native species.

23. Goldenrods

With more than 40 kinds in North Carolina alone, the summer-blooming goldenrods are the despair of those who try to tell one from the other; but, with the help of a field guide, you may be able to identify several between here and the overlook. Among those that have been recorded are Slender Goldenrod (*Solidago erecta*), Curtis' Goldenrod (*S. curtisii*), Late Goldenrod (*S. gigantea*), and Rough-leaved Goldenrod (*S. rugosa*). One that should give you no trouble at all is *S. bicolor*, or Silverrod, the only white-flowered species.

It is unfortunate that such an attractive native American wildflower as Goldenrod should have been blamed at one time for causing hay fever - an unjust accusation since its pollen is heavy and sticky and is disseminated by insects. Such allergies are much more likely to be caused by the fine wind borne pollen of other plants, such as Ragweed (*Ambrosia*).

24. Asters

Nothing contributes more to the beauty of the early fall scene than the white and pastel tints of the wild asters. They are especially numerous here where they share the sun with the goldenrods. Among the more conspicuous are the freely-branched Frost Asters (*Symphyotrichum pilosum*), with numerous white flowers, and the Sky-blue Heart-leaved Asters (*Symphyotrichum cordifolium*).

Many other species will be seen both here and along the trail as you retrace your steps to the Pisgah Inn parking lot. Watch for large-leaved Asters (*Eurybia macrophylla*), which often form big colonies of sterile plants, and Calico Asters (*Symphyotrichum lateriflorum*) with small reddish-centered flowers borne on arching stems. Curtis' Asters (*Symphyotrichum retroflexum*) can be recognized by the recurved green bracts beneath the blue ray-flowers.

This marks the end of the botanical tour. The path continues for about a tenth of a mile to Buck Spring Gap Overlook and the parking area where the Shut-In and Mt. Pisgah Trails commence.

This leaflet was written for your enjoyment by members of the Western Carolina Botanical Club in cooperation with the Blue Ridge Parkway. Find us at wcbotanicalclub.org.