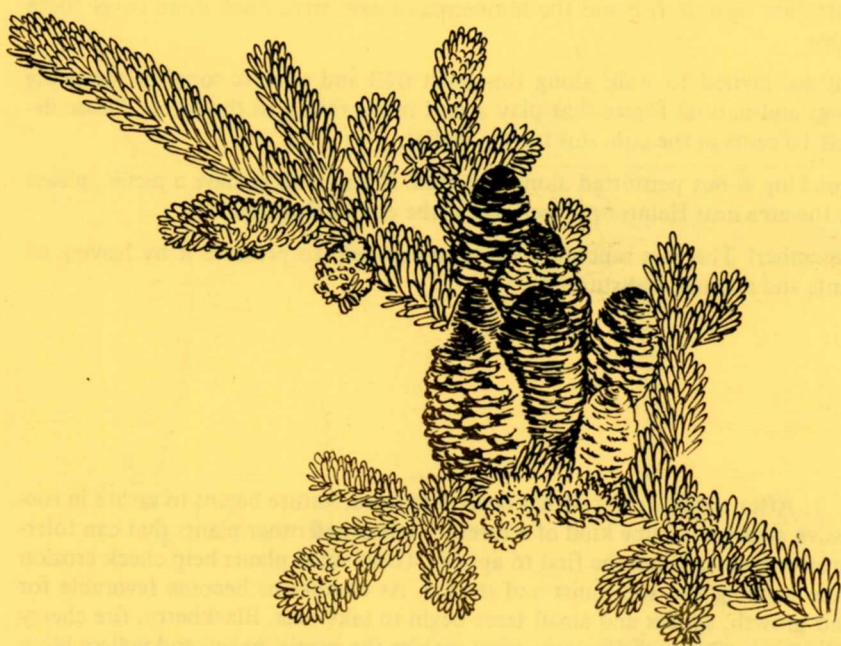


Balsam Mountain

NATURE TRAIL



Great Smoky Mountains

NATIONAL PARK

BALSAM MOUNTAIN NATURE TRAIL

Return of the Forest

Less than half a century ago, this high mountain was covered with a mature forest of red spruce and Fraser fir. As man's need for pulpwood became greater, the logging industry began to invade this wilderness. Large scale lumbering operations began in the Balsam Mountain area in 1927. The logging pattern at that time was indiscriminate cutting of all lumber-sized trees. Operations in this area lasted about two years. In that span of time, man put an end to a forest which nature had created and maintained through the centuries.

Natural forces, however, have not been idle. Now, several decades later, with protection against fire and the lumberman's axe, trees once more cover these slopes.

You are invited to walk along this short trail and observe some of the living things and natural forces that play a part in the return of the forest. Please deposit 10 cents in the coin slot for the leaflet.

Picnicking is not permitted along this trail. If you wish to have a picnic, please use the area near Heintooga Overlook at the end of this trail.

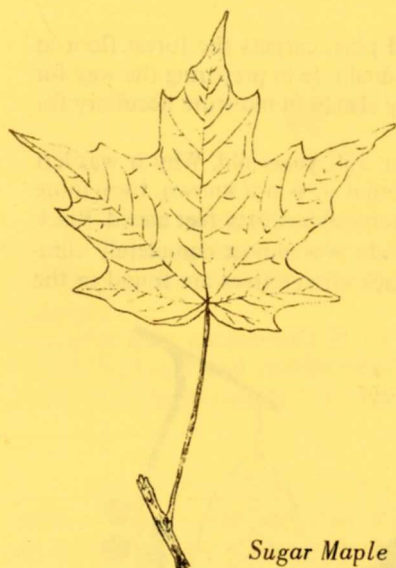
Remember! This is a sanctuary and you can help to preserve it by leaving all plants and animals undisturbed.

1. After a mature forest has been destroyed, nature begins to create in successive stages the same kind of a forest. Grasses and other plants that can tolerate strong sunlight are the first to appear. These small plants help check erosion while keeping the soil moist and shaded. As conditions become favorable for their growth, shrubs and small trees begin to take over. Blackberry, fire cherry and others prepare the way for trees such as the maple, beech and yellow birch seen here and buckeye, black cherry and others which are found along the trail.

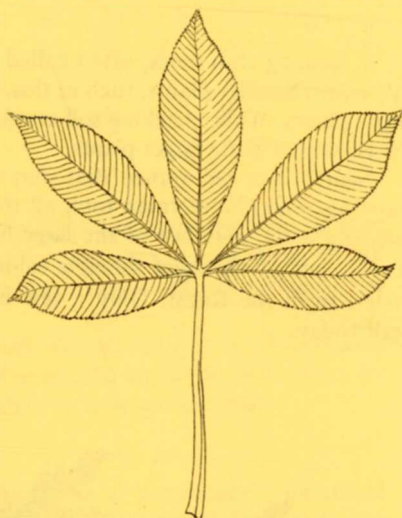
At lower elevations these hardwoods, with hemlock sometimes mixed in, comprise the climax stage of forest regrowth. Above 5000 feet, however, evergreen trees follow these hardwoods and will eventually exclude all but a few species. The young red spruce already here are pioneers of the invasion by the conifers.

2. The forces that act upon a forest during its life are not always beneficial. Heavy snows, strong winds or falling trees often cause severe damage or death to standing timber. If the trees survive they can repair the damage, but they usually retain an abnormal shape for life. This odd-shaped tree is a good example. The exact cause of its zig-zag growth is unknown.

3. Sugar maple is regarded as the most valuable of all maples. Since the wood was highly prized for making furniture, the lumbermen usually removed these maples first. To the pioneer, sugar maple provided a source of sweetening. In the early spring they collected the sap and boiled it down to make maple syrup and maple sugar. These were used in place of cane sugar which was very difficult to obtain.



Sugar Maple



Yellow Buckeye

In the vicinity of this trail are several large sugar maples. They were probably too small to be of any value when this area was logged. With competition from nearby trees reduced as a result of the logging, they grew rapidly and now seem to be the forest giants. Eventually they will be replaced by spruce and fir as these species spread and reclaim these heights.

4. Twelve feet below the trail is a yellow buckeye. A dominant tree of the cove hardwood forests, it is found occasionally in the spruce-fir forests. Buckeye was of little value to the lumbermen because the wood is soft, weak and subject to warping. Mountain people, however, found this soft wood easy to carve and used it for bowls, dough trays and other useful household items.

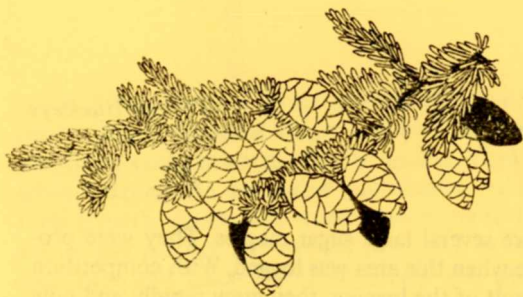
5. Yellow birch is widely distributed in the mountains and is found as far north as Quebec and Ontario. One of the few hardwoods that can compete successfully against spruce and fir, yellow birch will maintain its presence when these two have replaced most of the other species in the forest.

Scattered about the forest floor near the base of this tree, the long leaves of fly-poison may be seen. From late June into August, densely clustered white flowers, on two-foot stalks, are very conspicuous.

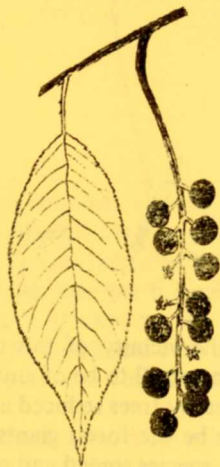
In the vicinity of the next five markers there are several large trees whose size indicates that logging operations passed them by. When the neighboring trees were felled, the competition for light and water was greatly decreased and the survivors grew more rapidly as a result. Consequently, they may not be as old as they appear to be.

6. Shining club moss, often called ground pine, carpets the forest floor at this point. Smaller plants, such as this, play a dual role in preparing the way for larger plants. While checking soil erosion, they also hold moisture necessary for the growth of these larger plants.

Nearby is a red spruce that may be over 300 years old. Why it was left standing, when lumbermen took all those around it, is not known. Even more puzzling is the presence of the large black cherry about fifty feet ahead. Black cherry, one of the most valuable cabinet woods, was almost completely eliminated from the forest. Only a few large black cherry trees are found in the park today.



Red Spruce



Black Cherry

7. The oddly shaped tree at this point is a silverbell. This species is confined largely to the southeastern states. In April, when laden with white, bell shaped blossoms, it ranks with dogwood and redbud as a tree of great beauty. Those who admire it, however, have given it some unusual names such as calico wood, tiss wood, wild olive and possum wood.



Red Maple



Silverbell

8. The large tree beside the trail is a red maple. The descriptive name is very fitting. In early spring the flowers, seeds and young leaves are red. Then in fall these maples are the chief contributors to the brilliant red coloration of the landscape.

Found only occasionally in the spruce-fir forest, red maple is a common tree in the lower and middle elevations. Considered to be of little value by lumbermen, these trees were left standing when an area was cut over.

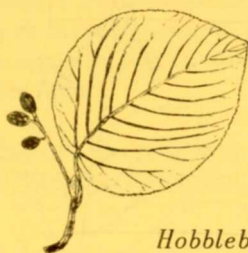
9. The opening at this point was at one time a "man-made" mountain meadow. Long before the park was established, mountaineer farmers in the region allowed their livestock to run loose. Many of the animals roamed up the ravines into the higher elevations where it was cooler in the summer.

The farmers cleared trees from some of these high places, thus allowing grasses to grow in the openings. The grazing of the animals prevented forest regrowth and kept the areas open.

When the park was established, grazing activities ceased. As the trees began to reappear, the meadows became smaller in size and eventually were completely overgrown. Today, very little remains of this one and in a few years it too will have returned to the forest.

10. Mountain winterberry is one of the hollies. Unlike the more familiar American holly, this species loses its leaves in the autumn. Winterberry gets its name from the bright red berries which remain on the plant throughout the winter. These berries often serve as a source of food for birds and other forms of wildlife during severe weather.

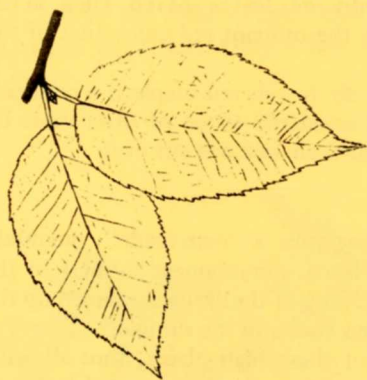
11. The low shrub with the opposite, heart-shaped leaves is the Hobblebush. In the descriptive language of the mountaineer it is called "witch-hobble," "trip-toe," or "tangle-legs." As early as late August its leaves will show the dark red colors of autumn. One of the few smaller plants that is not shaded out by spruce and fir, witch-hobble thrives on the floor of the mature conifer forest.



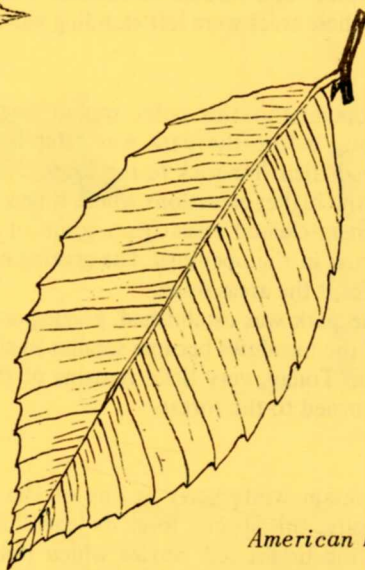
Hobblebush

12. The nearer of the two trees leaning over the trail is a yellow birch; behind it is an American beech. The leaves of these two are similar, but if you examine them closely you can easily identify the difference. The birch leaf has many fine teeth along its margin. The beech has fewer teeth that occur only where the veins extend to the edge.

Both of these trees are widely distributed in the park. In the lower elevations they are the dominant trees in the final stage of the forest. Here in the higher elevations they are succeeded by spruce and fir which form the climax stage of growth and become dominant.



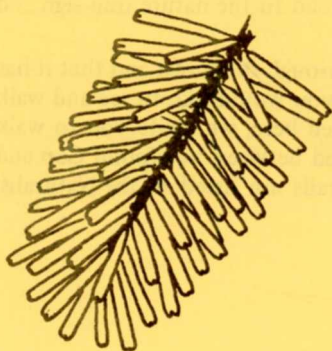
Yellow birch



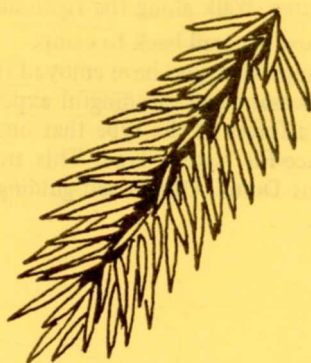
American Beech

13. Red spruce has scaly bark and pointed, diamond-shaped leaves (in cross-section). The cones hang down from the branches. One of the dominant trees in the original forest, most of them were removed for use in paper mills. Some of the better spruce logs were used for pipe organs, certain string instruments and the construction of early airplanes.

The stand of red spruce in this vicinity is a promise of things to come. Most of them are too young to have been here when logging took place. Descendents of the forest giants that once grew here, in time they will become giants, reclaiming a land that once was theirs.



Fraser Fir



Red Spruce

14. Fraser fir, also called balsam fir, has relatively smooth bark with numerous resin blisters. The needles are flat with silvery undersides and the cones "stand up" on the branches. Fir, along with red spruce, was removed from the original forest for use mainly as pulpwood. When the forest once again becomes mature, fir and spruce will have regained their dominance over these heights.

15. The forest that once graced these heights is gone, stripped to satisfy man's demands for wood and wood products. In its place are grasses, shrubs and smaller trees that are playing their part in the reforestation of the mountain.

The grasses help to check soil erosion while conserving moisture. Shrubs, such as blackberry, growing in poor soil enrich it with their fallen leaves. This helps prepare the way for trees like the birch and beech which in their turn are one of the stages in forest succession. Eventually spruce and fir will replace most of the trees and shrubs. When the spruce and fir have reached maturity and regained their dominance, nature will have succeeded in bringing about the return of the forest.

From this point you may continue on the trail and eventually reach Heintooga Overlook. If you do not wish to go on to the overlook, you can return to the campground by retracing your steps along the nature trail.

To reach the overlook, continue along the trail to the road, turn left and walk along the roadside past the picnic area parking lot. Then turn left again and follow the trail to the overlook. A short distance further along is the junction of the trail to Flat Creek Falls.

From the opening at Heintooga Overlook you can see the hardwood forests of the lower slopes. Extending above them to the crest of the mountains are the spruce-fir forests. Untouched by lumbermen, these forests remain today as the largest stand of virgin timber in the Great Smoky Mountains National Park.

To return to the campground from the overlook, retrace your route to the parking area. Walk along the right side of the road to the nature trail sign and then follow the trail back to camp.

We hope that you have enjoyed this walk through the forest and that it has been a pleasant and meaningful experience. If you would like to see and walk through a forest of the type that once flourished here, we invite you to walk the Spruce-Fir Nature Trail. This trail is located between Newfound Gap and Clingmans Dome. Others self-guiding nature trails are listed in the Naturalist Program.



This leaflet is published by the Great Smoky Mountains Natural History Association, an educational society organized to assist the interpretive program of Great Smoky Mountains National Park with the approval of the United States Department of the Interior.