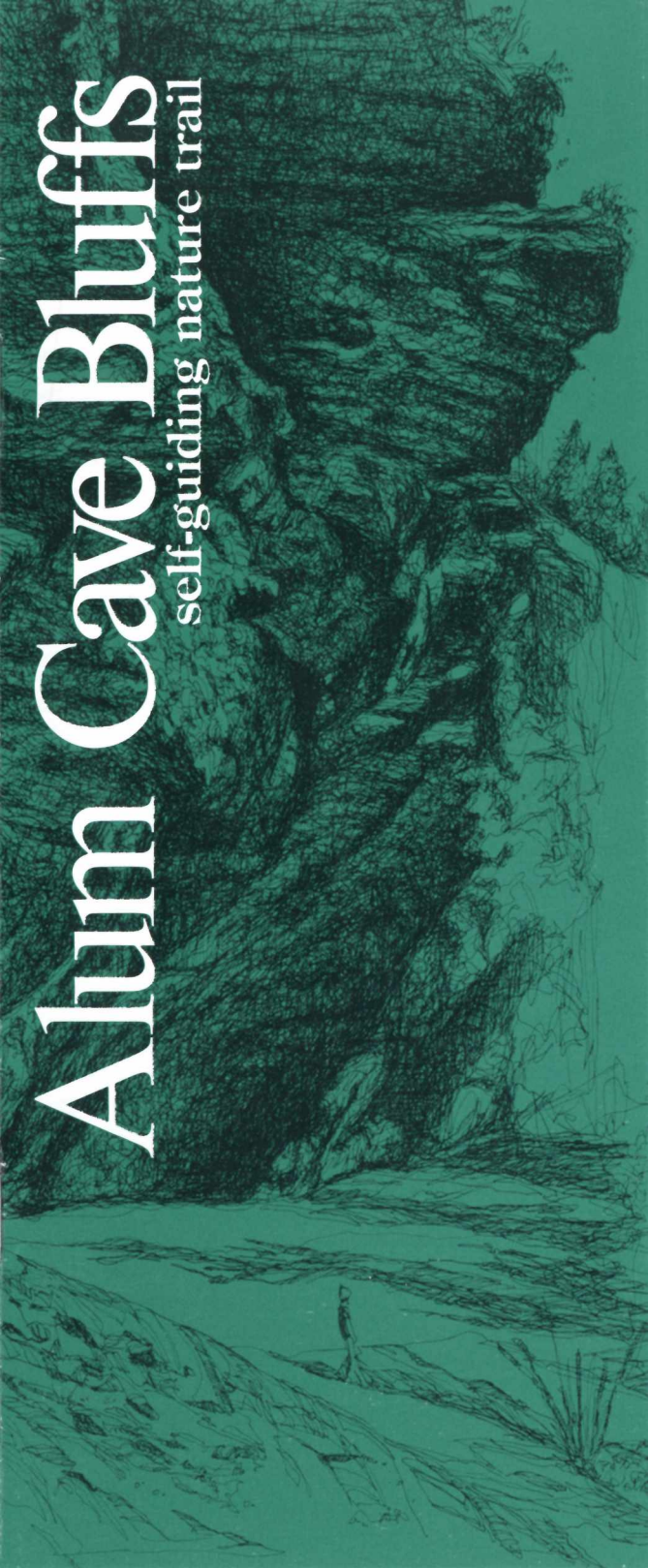


Alum Cave Bluffs

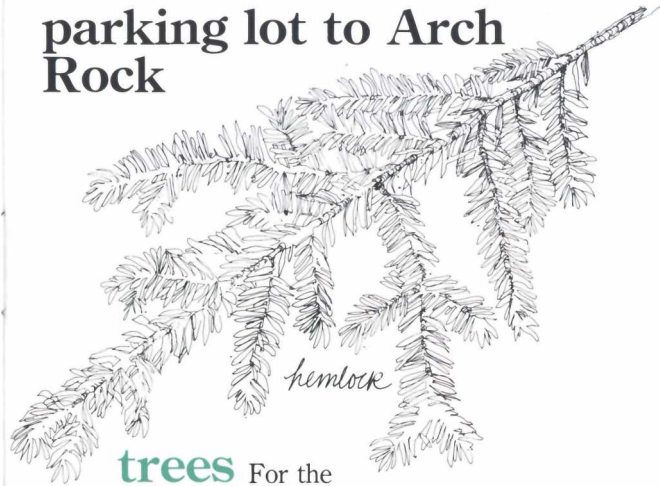
self-guiding nature trail



As you step across the first wooden bridge on the Alum Cave Bluffs Trail, and the constant splashing of the Little Pigeon River drowns out the sounds of roads and automobiles, you enter a very special environment — a place peculiar to the Smokies, a place where human meddling has been kept to a minimum. Sheltered by steep slopes and spared from the logger's ax, the forests around you look much as they did in the days when the Cherokee hunters slipped silently beneath their branches. Everywhere along your route there is something to see and something to learn. With each turn the trail to Alum Cave Bluffs offers a new adventure in natural surroundings and a unique encounter with the Appalachian wilderness.

The purpose of this trail guide is to describe in a general way the various types of forest communities that you will be hiking through on your way to Alum Cave Bluffs. There are no numbered stakes as are typically found along most self-guiding nature trails. You must be alert for the natural features that are being described. We hope that this leaflet will help you enjoy and understand this little part of the Smokies; and, develop an awareness for the natural world that can be used in other areas you visit.

parking lot to Arch Rock

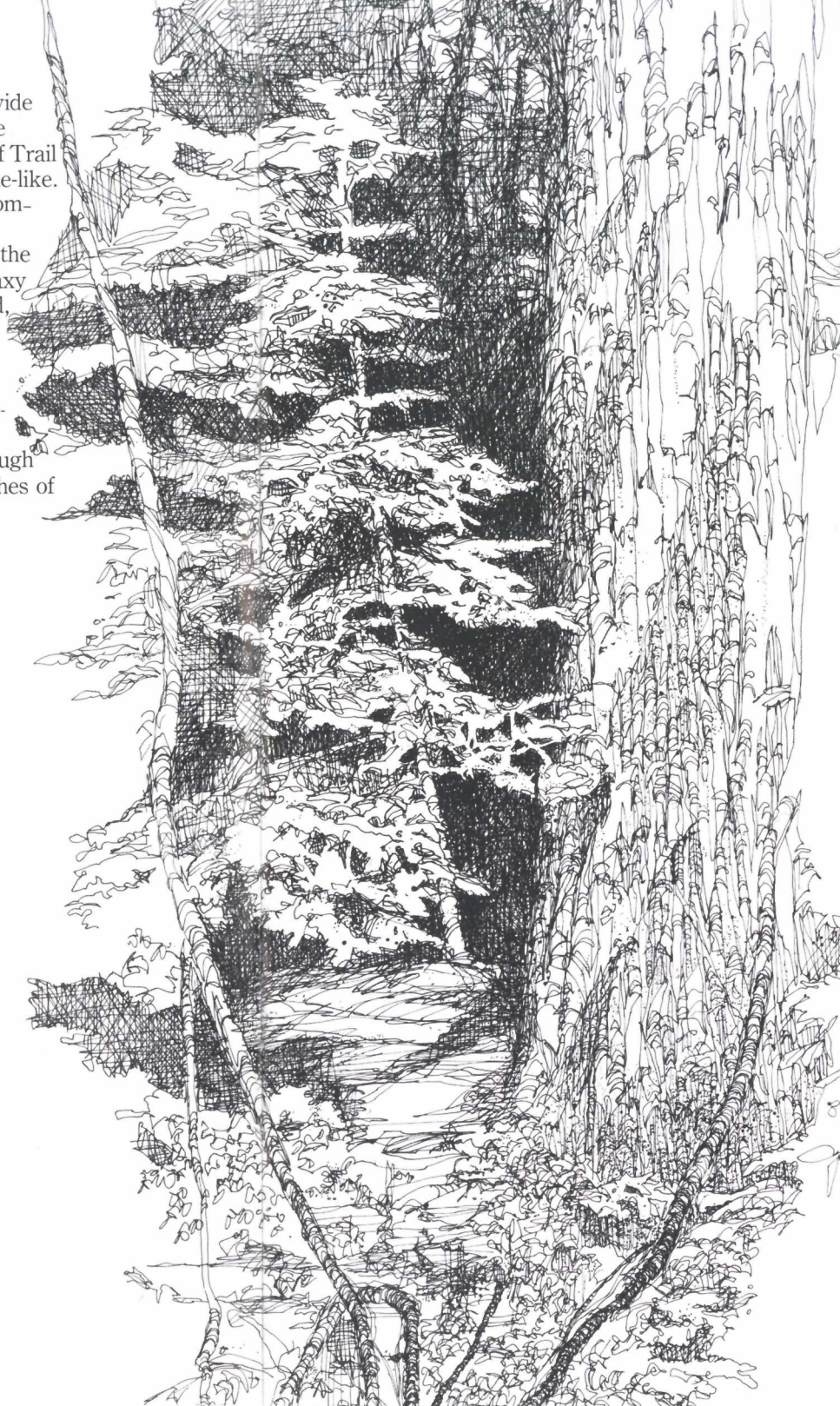


trees

For the first one and one-half miles to Arch Rock you will be walking through a mature northern hardwood and hemlock forest along Alum Cave Creek. Two species of trees dominate the forest. The stately evergreens are Eastern hemlock, straight-trunked giants, distinguished by their short needles and reddish gray, furrowed bark. Hemlock seedlings grow best in the shade, so large hemlock trees are a sign that a site was never farmed or cleared of timber. The veterans, trees so big that you can't reach around them, sprouted 200 or more years ago.

In the higher elevation coves like this one, yellow birch is hemlock's most frequent neighbor. A deciduous tree (one that loses its leaves in winter), the yellow birch may also grow to great size and age, but tends to have a shorter, knottier trunk and thicker branches than the nearby evergreens. Young yellow birches are easily identified by their peeling, golden bark which breaks into flaky yellow plates as the trunks age and increase in size. Yellow birch is one of the few trees that can survive at any elevation from the bottom of Mt. LeConte to the top, and may be found growing with spruces and firs high above the last hardy hemlock. An aggressive competitor in openings, the birch may actually start right on the fallen log. Eventually the dead tree will rot away, leaving the birch standing on stilt-like roots. If you keep your eyes open, you should be able to find several "stilt" trees along the trail.

shrubs Despite the wide spacing of the older trees, the forest along Alum Cave Bluff Trail seems crowded, almost jungle-like. The tangled shrub layer is composed largely of rosebay rhododendron, a member of the heath family, with broad, waxy evergreen leaves and gnarled, reddish-brown branches. Beautiful as it is any time of year, the rosebay is at its best in July, when great clusters of showy white flowers make the shrubs look as though they were covered with patches of snow.



small mammals Large animals are not often seen in the Alum Cave Bluffs area, but numerous small critters provide opportunities for wildlife observation. One of the most conspicuous residents of the forest is the red squirrel or "mountain boomer."

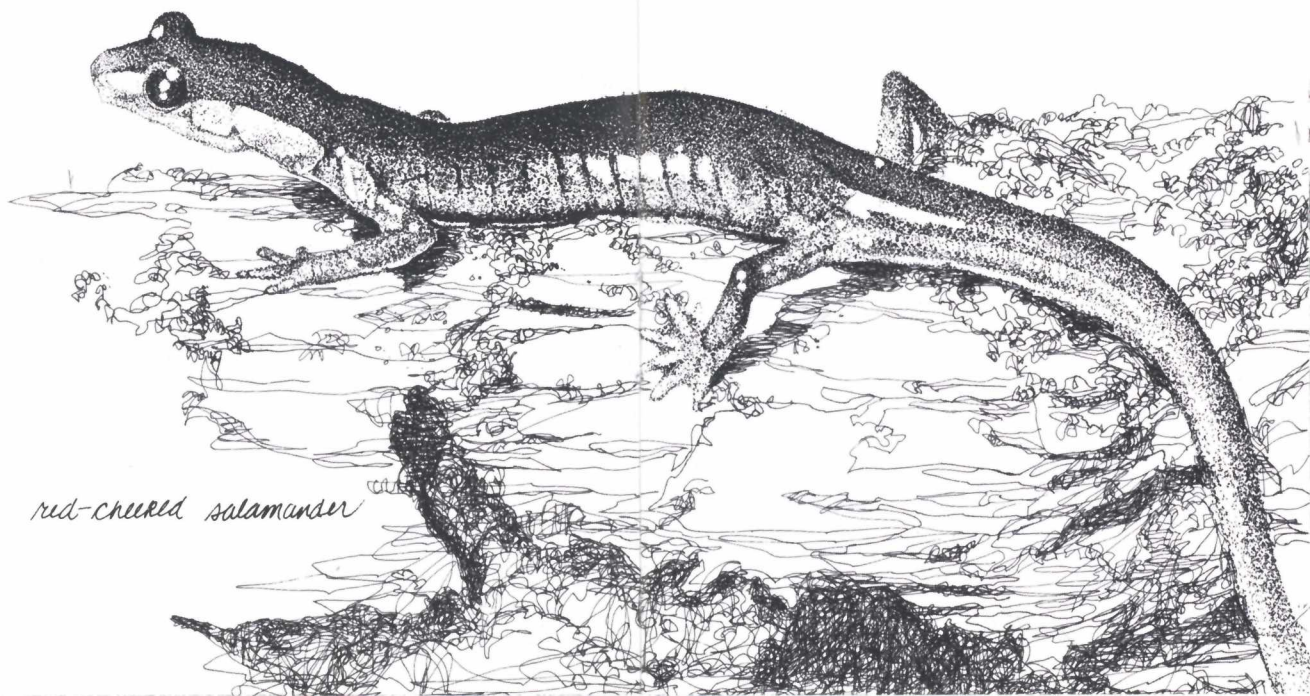
Unable to keep quiet, the "boomer" scolds and chatters. When it searches for small fruits and other food, the leaves are rustled so vigorously it sounds like an animal ten times larger. The red squirrel's habits are similar to his slightly bigger cousin, the gray squirrel, but the red squirrel prefers forests with evergreen trees and tends to live higher on the mountain. Occasionally you may catch a glimpse of a little gray creature darting under your feet. Mice and moles (of the woodland, not household varieties) are common throughout the mountains,



red squirrel

but chances are the miniature runner is a shrew. Shrews are voracious eaters for their size and actively capture many types of insects, centipedes, snails and worms. One Smokies species, the pygmy shrew, is less than three inches long at maturity and is the smallest mammal native to North America.

salamanders Another interesting group of animals, and one that is easily overlooked, is the salamanders. Camouflaged, the salamanders often sit quietly among rocks in the stream or along wet mossy banks and wait for an insect to drop in front of them. Three species, the Blue Ridge Mountain, the Appalachian seal, and the black-bellied salamander, are common along Alum Cave Creek. The black-bellied is the biggest (sometimes over six inches long) and the easiest to find. If you feel inclined to take some time out from hiking and sit by the creek, you'll soon discover that the stream is just as alive as the forest. A salamander may, in fact, be watching you whether you've seen it or not.



red-cheeked salamander

life in Alum Cave Creek

Although there are mosses and microscopic algae, called diatoms, on the rocks, the stream system is really dependent for energy on material washing in from the forest floor. Aquatic insects, which live under stones or in moss mats, capture pieces of leaves and break them down. These insects, in turn, are a favorite food of salamanders and fish. The colorful native brook trout will both eat its smaller aquatic neighbors and devour any free meals flying out of the forest canopy.

bears along the trail

Now, what about bears? Bears frequent the Alum Cave and Mt. LeConte areas, especially in summer. A good way to tell if bears have been around recently is to look for sign, such as fresh droppings. These are large and often a shiny blue-black in color. Depending on what the bear has been eating, droppings may contain wild cherry pits or parts of other berries, fragments of insect larvae, or hair from dead animals (carrion). Bears also leave other sign, such as tracks at muddy streams crossings, and claw marks on trees. A bear, incidentally, usually makes much less noise than a "boomer."

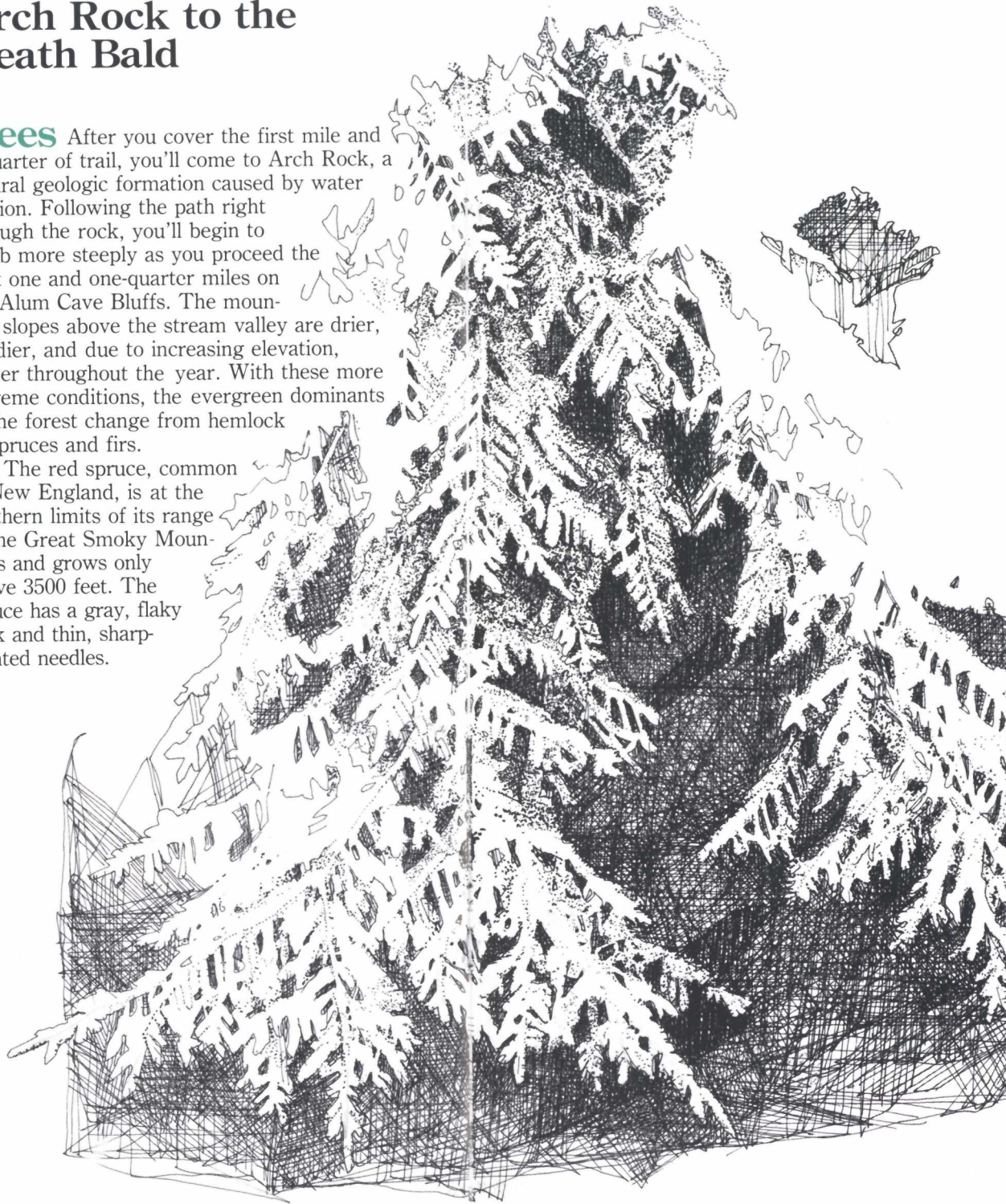
Unfortunately, one of the signs of bear presence along Alum Cave Bluffs Trail is chewed or scattered garbage and food wrappers. Leaving food or garbage where a bear can get it is bad for the bear, which may become a beggar who has to be tranquilized and moved elsewhere. Careless food disposal is also unsafe for other hikers, who may be approached by a bear that has lost its fear of man. Most bears you encounter in the Park will run as they see you. If a bear does confront you on the trail, make as much noise as possible and move out of its way. Do not feed bears.



Arch Rock to the Heath Bald

trees After you cover the first mile and a quarter of trail, you'll come to Arch Rock, a natural geologic formation caused by water erosion. Following the path right through the rock, you'll begin to climb more steeply as you proceed the next one and one-quarter miles on the Alum Cave Bluffs. The mountain slopes above the stream valley are drier, windier, and due to increasing elevation, colder throughout the year. With these more extreme conditions, the evergreen dominants of the forest change from hemlock to spruces and firs.

The red spruce, common in New England, is at the southern limits of its range in the Great Smoky Mountains and grows only above 3500 feet. The spruce has a gray, flaky bark and thin, sharp-pointed needles.

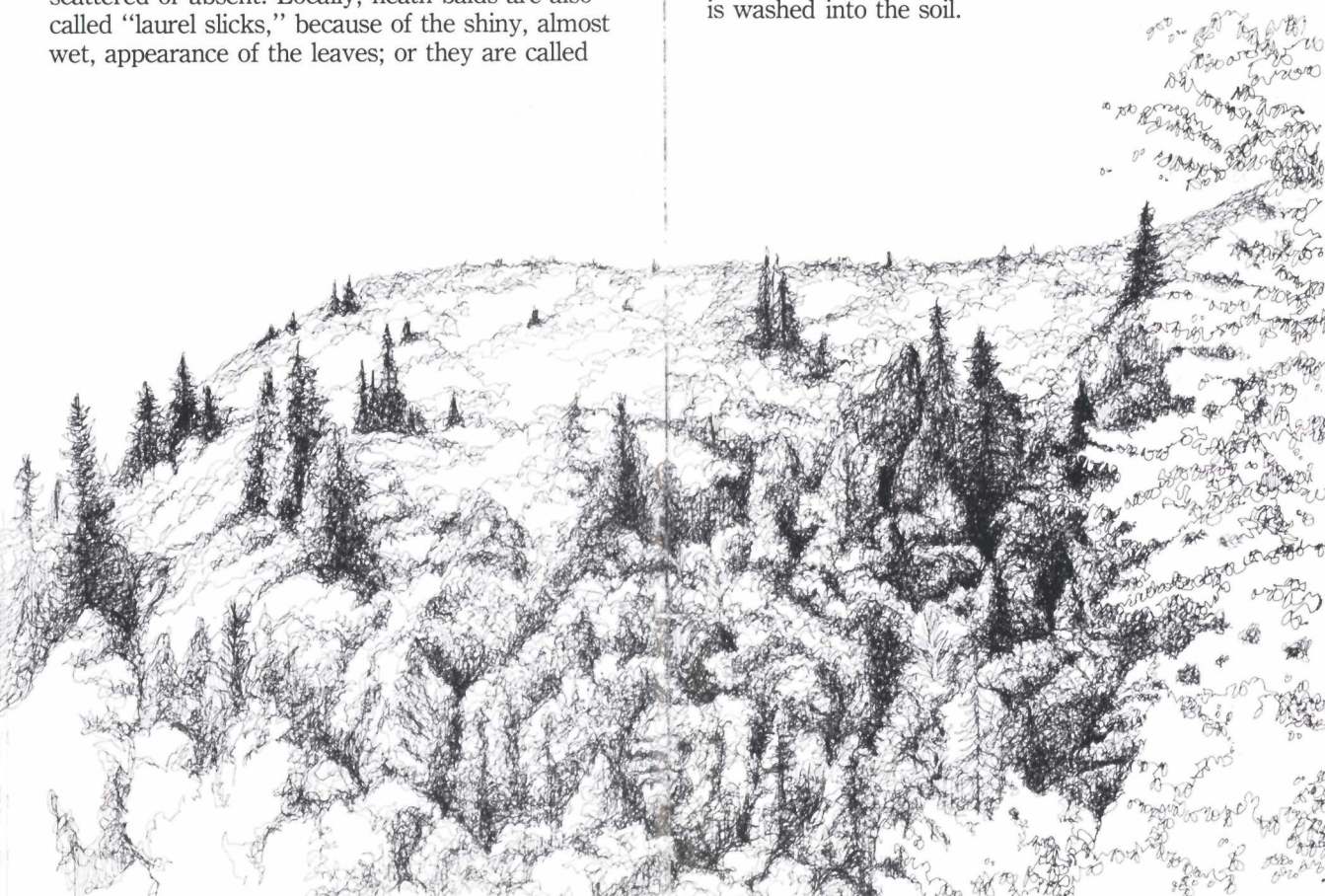


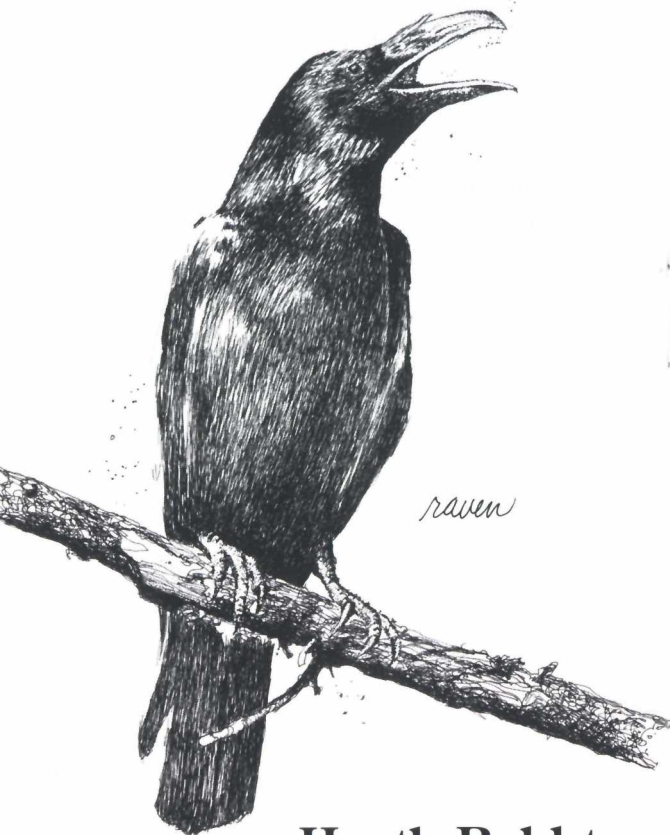
shrubs Although the shrub layer both above and below Arch Rock looks much alike, most of the waxy-leaved plants on the ridges near Alum Cave Bluffs are the pink-flowered Catawba rhododendron, not the white-flowered rosebay. Loved by wildflower enthusiasts, the Catawba rhododendron blooms in June and loses its petals just as those of rosebay are opening.

heath bald Among the major landscape features of the slopes above Arch Rock are the large treeless openings in the forest cover. These openings are of three different types — heath balds, landslide scars and cliff faces; and each has a different natural history. As you leave the canopy of the forest behind and break out into an exposed area, you enter a heath bald. This is a place where the rhododendron and other evergreen shrub species take over and trees are scattered or absent. Locally, heath balds are also called “laurel slicks,” because of the shiny, almost wet, appearance of the leaves; or they are called

“hells” because they are so difficult to walk (or crawl) through. Since they include a variety of showy flowering species such as mountain laurel and Catawba rhododendron, such balds are very exciting when they are in bloom. Heath balds also support some unusual plant species, such as sand myrtle, which grows only in the Appalachians and on the southeastern coast and nowhere in between. Sand myrtle may be recognized by its small evergreen leaves (less than one-half inch) and delicate little white flowers.

Ecologists have long been fascinated by heath balds, but it is still a mystery why there are no trees on these sites. Heath balds usually are on jagged, dry peaks or shoulders, so lack of water may be a factor. Lighting fires may have burned over some of these slopes in the past, leaving poor growing conditions for trees on the inhospitable ridges. Recent evidence suggests that Catawba rhododendron has a chemical in its leaves that inhibits tree seedling growth when it is washed into the soil.





Heath Bald to Alum Cave Bluffs

landslides If you're not caught in a mountain mist as you approach the Bluffs, you should be able to look back on the slopes above you and see fresh landslide scars. One of the most recent slides occurred during a thunderstorm on June 28, 1993. It's estimated that a 20-foot wall of water came crashing down the slope and across the trail. Eastern hemlock trees 10 feet in circumference were "tossed about like toothpicks," but fortunately no hikers were on the trail at the time.

Many of the larger landslide scars on Mt. LeConte date back to September 1, 1951 when at least four inches of rain fell in one hour. The deluge floated the soils on LeConte's steep slopes and sent a flash flood racing down Alum Cave Creek. Cascading piles of debris knocked over

mature trees and cleared huge openings in the forest canopy. The slides reached all the way down to the Newfound Gap Road which had to be closed for several days.

Alum Cave Bluffs When you finally reach the Bluffs, you'll want to take some time for both the spectacular Appalachian scenery and a look around the "cave," which is really a rock overhang. The cliffs around the Bluffs are natural and are covered with numerous colonies of small plants, including ferns, herbs and crusty little lichens. The color of the lichens and mosses is a show in itself, with shades varying from black to gray to bright yellow-green. The Bluffs is an outcrop of the Anakeesta rock formation which is high in sulfur and has interesting chemical properties where it is exposed and weathering.

One easily identifiable bird which lives around the Bluffs is the raven. It looks like a large crow and often makes a gronking sound instead of cawing. Ravens love to do aerial acrobatics and may swoop down from the edge of the cliff, then perform a somersault before catching an updraft and circling on the wind. Ravens are rare in the eastern United States but appear to be holding their own.

to the top of Mt. LeConte

After you've finished your walk to the Bluffs, you may wish to go on to the top of Mt. LeConte, another two and one-half miles. The spruce forest gradually gives way to fir and mountain ash and the trip provides more fine views. The trail is steep, so unless you have reservations at the Lodge or the shelter, be certain to allow a minimum of 5-6 hours to climb to the top and return to your car before dark.

the trip down

If you're planning to return directly to the parking area, take it easy and enjoy the mountain scenery. Probably there are some interesting things you missed on the way up. Look for wildlife, flowers, appreciate the clear streams, quietness and serenity which comes from being in a wilderness that is both fragile and rugged.

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