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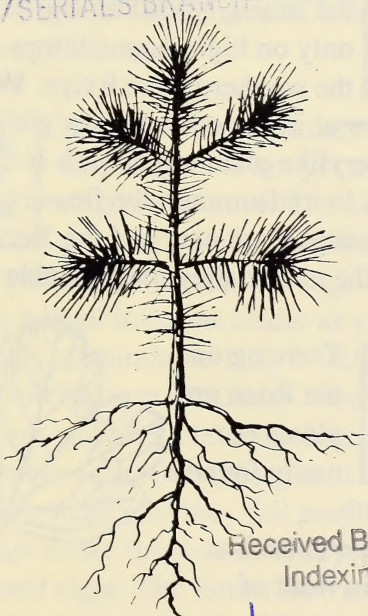
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Roan

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Mountain GARDEN



Received By: JVB
Indexing Branch

Plants survive forces of nature

Imagine you're a plant, one of the hardy species adapted to live on Roan Mountain. You must stand here through long, bitter winters...pelted by ice... covered by snow...buffeted by strong winds. When ice finally melts, you burst into life for the short summer.



**National Forests
in North Carolina**

Roan plants stand against tides of nature

1 **Spreading Avens**, the plant with the round, spreading leaves, is found only on high mountaintops of the southern Blue Ridge. **Wild strawberry**, in the same family, grows beside it. The celerylike plant to your left is **angelica**. In midsummer, the flowers attract bees and wasps from near and far. Becoming drunk on the nectar, they may stumble around.

2 Thriving on the Roan are plants normally found in the North.

Gooseberry, such as this bush in front of you, is one example.



Gooseberry

3 The small strawberry-like plant growing on the mat is **three-toothed cinquefoil**. It is found in rocky places on the shores in Canada, alpine mountain tops in New England, the Appalachians, and southern Blue Ridge. Also located here are two other plants common to the balds: **mountain oatgrass** and a grass-like plant called **sedge**.

4 The delicate blue flowers, called **bluets** or **quakerladies**, inhabit these mountains. During the harsh winter, no part of this plant re-

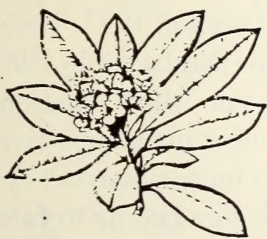
mains above ground. The plant with the lacy leaves is **yarrow**. This European plant is used medicinally.

5 Rhododendrons are common to the Appalachian mountains and Asia, although they're not found in Canada. Often called heath balds, these areas contain few trees. Even when not in bloom, you can tell this

is purple or **Catawba rhododendron** because the leaves have a white underside. All rhododendron leaves act like thermometers.

As the temperature becomes colder, the leaves begin curling tightly.

Haircap moss forms mats that are as soft as any mattress. These plants are often found in northern climates.



Catawba rhododendron

6 It's a tough life for plants on the Roan, as evidenced by the remains of tree skeletons. Only the strongest trees survive. Tree roots spread only a short distance before they hit rock, frost heaves push up roots, and strong winds blow over trees. A tree's death clears habitat for species needing light, and new trees will grow in these spots.

7 In the gardens, some areas are managed. The shrubs become very spindly and have few blooms when they grow in deep shade or when they get old. In some areas, trees or rhododendrons were cut. To the left are **saxifrages**, small plants with serrated leaves.

8

A very special type of plant lives on this tree. The grey and green patches on the trunk are plants called

lichens. A fungus and an algae live together symbiotically, meaning they help each other live. This special relationship may be why lichens were the first terrestrial plants. A variety of lichens are found around the world—from brilliant red tropical species to those in the far northern spruce fir forests. Due to their fascinating chemistry, lichens are used for air quality and pollution indicators and antibiotics for cancer research.

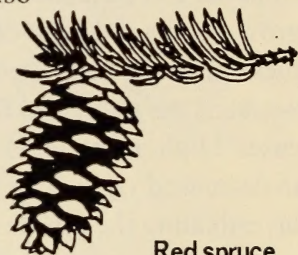
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How do you tell the difference between spruce and fir? Feel them.

Red spruce is in front of you.

Fraser fir, also

called balsam, is in back of you. You will know why people say “spiny spruce and friendly fir” when you compare the sharp spruce needles with soft, rounded fir needles.



Red spruce

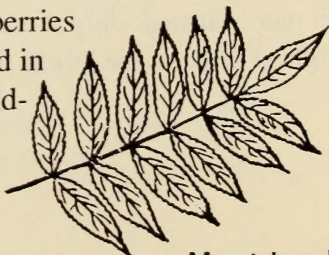


Fraser fir

10

You are standing under a **Mountain-ash** tree. The bright orange berries produced in

fall provide good wild-life food at high elevations.



Mountain-ash

11

Before you is another mystery of the Roan balds. Many theories explain why this area is bare. Its barrenness may be the result of people digging rhododendron, storms, salt licks for grazing stock, freeze and thaw of ice, or trampling. A small, unusual plant scattered along the edges is **sandmyrtle**. It is a carpet of tiny, waxy leaves.

12

The impact of acid deposition and air pollution is not yet understood by science. The air, fog, and rain now contain many different pollutants. Sometimes high mountain plants are bathed in fog as acidic as vinegar. Toxic levels of aluminum may be released from the soil because of acidity. Trees seem to grow slower and high-elevation forest canopies are not as lush. One theory says acidity weakens the trees, and they fall prey to diseases. High ozone levels may also play a part in decreased vigor. The Forest Service is investigating the reasons for this decline.

13

Anyone who has stood in Canadian forests will notice the same surroundings of the Roan forests. Although in North Carolina, the high elevation provides the same cold climate. During the last ice age, **spruce-fir** forests spread down to Georgia and Alabama. As the climate warmed, only these relic forests on the highest peaks were left in the Southeast.

14

The **elderberry** grows in North Carolina's high mountains as well as in Canada. The scarlet berries provide food for wildlife.

15

This is a Forest Service rhododendron maintenance project. Notice three different layers of rhododendrons. In the foreground are shrubs cut back in 1977. The space in the middle contains shrubs cut in 1987. Shrubs in the back were not cut. Rhododendrons can live to be very old. Cutting the shrubs gives them a rejuvenated look and more flowers. The heart-shaped leaves near this sign belong to **false lily of the valley**, also called Canada mayflower.

16

You are standing at 6,200 feet. On a clear day, you can see many mountains from this point. The range to your right is the Black Mountain chain, containing Mount Mitchell—the highest peak in eastern North America. The grassy areas in front of you were crowded with blackberry bushes, until the Forest Service managed them.

For more information:

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