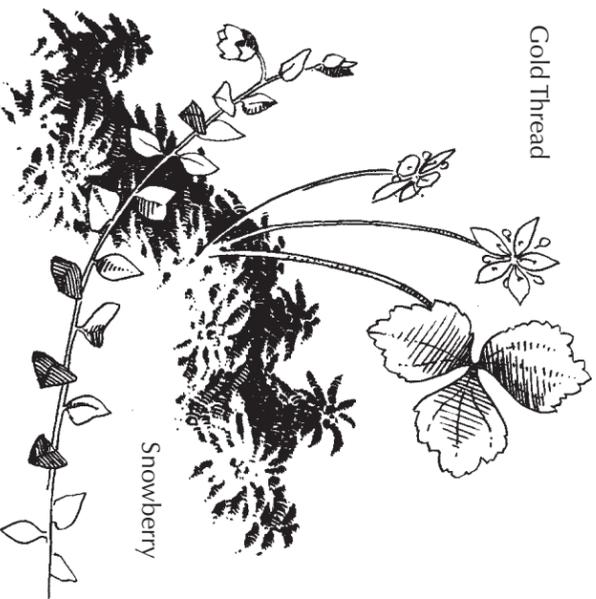


BRADFORD BOGS TRAIL GUIDE

East Washington Road
Bradford, N.H.



Gold Thread

Snowberry

Published by
The Bradford
Conservation
Commission



Small Cranberry

THE BRADFORD BOG

In 1971, the Town of Bradford acquired the Bradford Bog as a gift from the New England Wild Flower Society. The Wild Flower Society purchased it in 1961 as a sanctuary for the Atlantic white cedar, *Chamaecyparis thyoides*, and the unique bog flora.



Sphagnum Moss

Generally it is thought that bogs began as glacial ponds formed when the great ice mass retreated about 10,000 years ago. Remaining ice chunks, covered with glacial debris, created a depression that filled with water. It is questionable whether this bog was actually a glacial pond or whether it was some other kind of basin with standing water.

The glacial pond, surrounded by granite and glacial deposits of rock and gravel, provided few nutrients for plant growth. As the climate warmed only those plants that could survive in a limited environment invaded the area.

One of the first pioneer plants, sphagnum moss, grew from the water's edge gradually forming a fragile mat toward the bog center. As the sphagnum crept toward the bog center oxygen was prevented from entering the underlying water. With this lack of oxygen there was little decomposition and layers of dead sphagnum began to accumulate and created an environment of highly acidic water with low nutrient content. Therefore only acid-loving and specialized plants could survive.

As the mat became more stable some of the specialized plants such as pitcher plant and

sundew plant assumed a position on the sphagnum. Later, shrubs, particularly the acid-loving members of the heath family established themselves on the mat. These shrubs altered the area making it drier, more stable and suitable for small trees. Black spruce and larch were the first trees to appear. Depending on the climate and water level other tree species may move into the area or the more shade-tolerant black spruce may dominate a forest.

The Atlantic white cedars are interesting features of this bog since they are more commonly found in coastal swamps and bogs from southern Maine to Florida. Here the cedars represent one of the most northwestern stands in its range. The wood of these trees is very light, even lighter than white pine, and very durable when in contact with the soil. In days past the trees were cut for fence posts and railroad material. Usually the trees grow in areas of year-round standing water but any flooding, either by human or beaver endeavors, could damage trees. Hopefully the trees will be protected here in the Bradford Bog.

A walk through the bog will reveal an area rich in wildlife. In the summer white-throated sparrows and warblers frequent the spruce and cedar trees. Many times signs of bobcat are noticeable along the trail confirming reported sightings. Deer, moose, raccoon, fox, snowshoe hare and many other animals inhabit the area.



Bunchberry



**PLEASE
LEAVE ALL PLANTS
AND ANIMALS WHERE
YOU FIND THEM!**

Other bogs to visit:
NEW LONDON BOG -
just past Cricenti's Market on left.
Boardwalk and self-guiding trail.

FOX STATE FOREST, MUD POND -
Located in Hillsborough.
An example of an early stage bog.

Further information on bogs:
Jorgensen, N., Guide to New England
Landscape, 1971 Pequot Press
Johnson, C., Bogs of the Northeast, 1985
University Press of New England

Additional copies of this guide can be obtained at the
Brown Memorial Library on Main Street in Bradford.

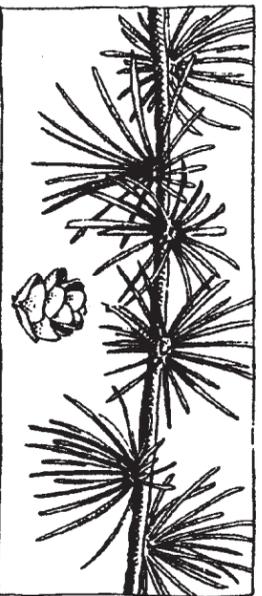
Acknowledgments: Text - Dr. D. Dunlop
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SELECTED FLORA OF THE BRADFORD BOG



Atlantic White Cedar
(*Chamaecyparis thyoides*)

Flattened scale-like leaves are dull bluish-green and easily detectable in the bog area. Young trees are abundant in this northwesterly ranging stand. Usually found along the coast from so. Maine to Florida. Bark is brown and ridged. Cones small, 1/4". Wood is pale, light and fragrant.



Larch, Tamarack, Hackmatack

(*Larix laricina*) The small soft, linear needles are grouped in small clusters on the twigs. Only northeastern conifer that turns yellow and drops all its needles in the fall. Wood has been used for telephone poles and fence posts. Grows throughout this bog area.



Black Spruce
(*Picea mariana*)

Medium size tree, evergreen with blunt-tipped blue-green needles. Bark is scaly and gray. Cones remain on the tree for years. Here, the stand on the fringe of the bog has been damaged by the native dwarf mistletoe, see "witch's broom".



Witch's Brooms

An area on a branch where growth has gone haywire. Here caused by Dwarf Mistletoe (*Arceuthobium pusillum*), an inconspicuous parasitic shrub with tiny opposite scalelike leaves.



Mountain Holly

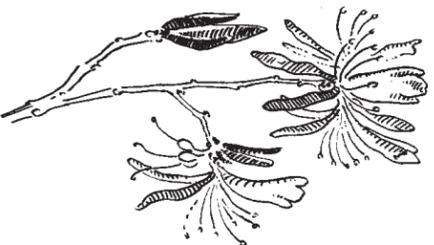
(*Nemopanthus mucronata*)
Deciduous shrub, up to 9 ft. Leaves about 1-2", thin and lacking teeth, with blue petioles. Flowers appear in late May. Berries bright red on long 1/2" stalks. Found here along the trail forming impenetrable masses.

Heath Family (*Ericaceae*)

This family includes many of the bog plants. Many have thick leathery leaves with numerous hairs on the lower surface. These are adaptations to reduce water loss through the leaves, since the bog water is so acidic and the plants must rely on rain water. Typical flowers have five petals united into a tube, at least at the base. Also having five to ten stamens. This family includes rhododendrons, azaleas, blueberries and the following four species also found in this bog.

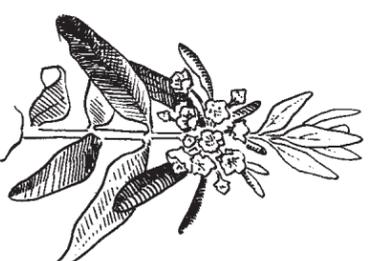
Rhodora

(*Rhododendron canadense*)
Deciduous shrub, 1-3 feet with elliptic leaves, margins slightly rolled, dull green above and paler beneath with a few rusty hairs along the midrib. Flowers expand before the leaves, April to May. One of the most brilliantly flowered shrubs found along the bog trail and on the mat. In winter, identified by the large buds.



Sheep Laurel

(*Kalmia angustifolia*)
Evergreen, 1-3 feet. Leaves opposite or in threes, elliptic, leathery and smooth above. Flowers pink, April to August, in clusters on the middle of the branches. As the name implies, it is poisonous to livestock.



Leatherleaf

(*Chamaedaphne calyculata*)
Evergreen shrub, 1-3 feet. Leaves alternately arranged, untoothed, leathery and scuffy, brown beneath. Flowers form long, one-sided clusters on the branches, March-July. Found out on the bog mat.



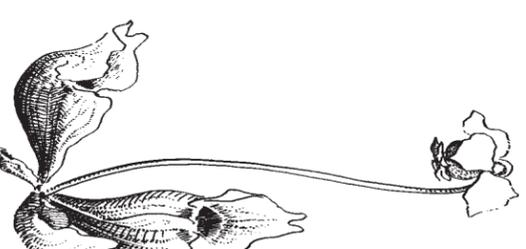
Bog Rosemary

(*Andromeda glaucophylla*)
Low evergreen shrub, 4 in. to 2 ft.. Leaves alternately arranged, very narrow, with rolled margins. Dark blue-green above and white with minute hairs beneath. Found here on the bog loop trail.



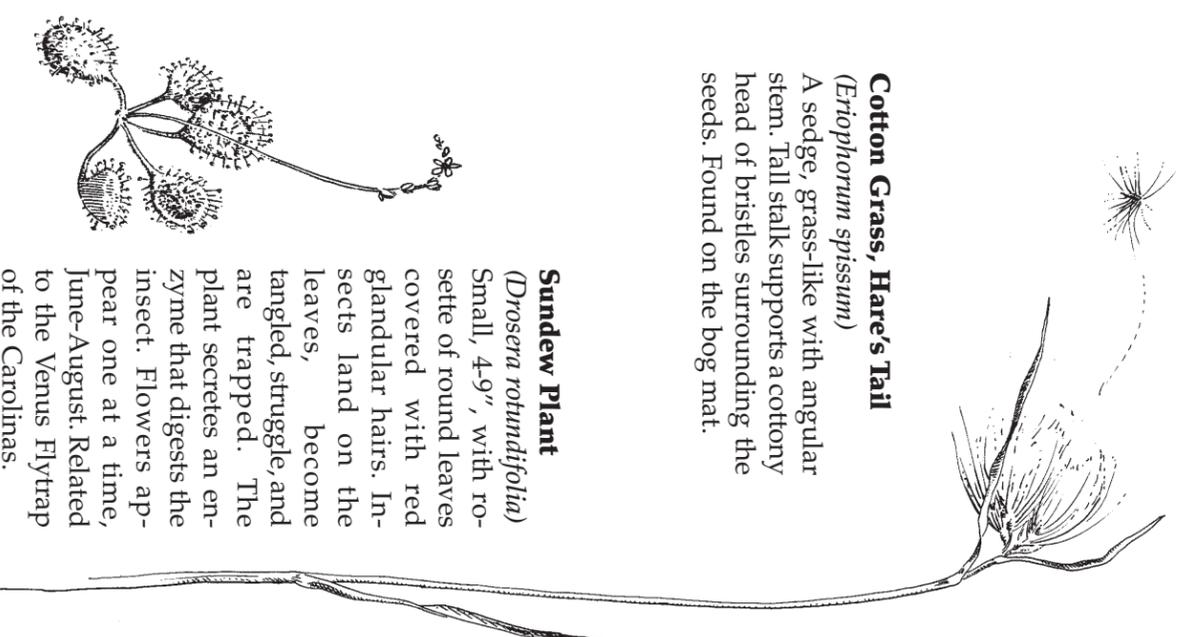
Pitcher Plant

(*Sarracenia purpurea*)
Low-lying in sphagnum. Attracts insects to a liquid-filled cavity within the tubular leaves. Downward-pointing hairs prevent the insect from escaping, it then falls into the liquid, drowns and is digested, providing the plants with needed nutrients. Tall persisting flower parts. *Wyeomia smithii*, a mosquito, breeds in the cavity unaffected. (This mosquito does not bite humans.)



Cotton Grass, Hare's Tail

(*Eriophorum spissum*)
A sedge, grass-like with angular stem. Tall stalk supports a cottony head of bristles surrounding the seeds. Found on the bog mat.



Sundew Plant

(*Drosera rotundifolia*)
Small, 4-9", with rosette of round leaves covered with red glandular hairs. Insects land on the leaves, become tangled, struggle, and are trapped. The plant secretes an enzyme that digests the insect. Flowers appear one at a time, June-August. Related to the Venus Flytrap of the Carolinas.

