

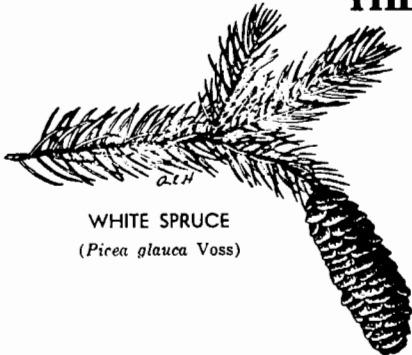
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Natural History Notes



MIKE DOMBECK grew up in the Moose Lake area and graduated from Hayward High School and the University of Wisconsin-Stevens Point. He has a B.S. degree in Biology and an M.S. degree in Aquatic Biology. He has taught Zoology at the University of Wisconsin-Stevens Point and is now a fisheries biologist with the U.S. Forest Service, living in Munising, Michigan. Mike has also been an area fishing guide since his high school days.

THE WHITE SPRUCE



WHITE SPRUCE
(*Picea glauca* Voss)

The white spruce is one of our most valuable and beautiful spruces native to northern Wisconsin. There are about 40 different species of spruces in the world and all are found in the cooler and temperate parts of the Northern Hemisphere. Spruces are most plentiful in China where about 18 species are found. Of the seven species found in the United States and Canada, two are native to Wisconsin: the white spruce and the black spruce.

Spruces are members of a very large family of trees, the Pine family. They are referred to as coniferous trees which means cone-bearing. All members of the Pine family are evergreens except for the tamarack or larch, which is deciduous, meaning it loses its needles in the fall like most broad-leaf trees. Other members of the Pine family are the junipers, hemlocks, firs and, of course, the pines. The firs and spruces are often confused but distinct differences do exist between them. The needles or, more correctly, the leaves of the fir, like our balsam, are flat in cross section and grow directly from the branch. Spruce needles, or leaves, grow from peg-like bases on the branches and are squarish or angular in cross section. The cones of fir trees stand upright on the branches and as they mature the cone breaks apart, compared to the spruces whose cone hangs downward and at maturity the entire cone falls from the tree. An observant eye can easily distinguish between the spruces and their closest relatives, the firs.

Both the white spruce and the black spruce are found here in Wisconsin. Generally the range of these two spruce species overlap. They are common from Alaska to Labrador and south to Michigan and Wisconsin. Although they do grow together in some areas, the white spruce does best on high land along the shores of lakes and streams, while the black spruce grows best in bogs and swamps. The needles of the black spruce are usually less than one-half inch long and its ovoid cones are about one inch

long. In comparison, the needles of the white spruce are about one inch in length and its oblong cones are up to two and a half inches in length.

The white spruce will grow to a height of 60 to 75 feet and a diameter of up to two feet. The tip of the white spruce is usually not sharply pointed like the tip of the black spruce. When grown in the open, the white spruce crown is symmetrical and branches remain on the trunk all the way to the ground. When grown in dense stands of trees the lower branches will prune themselves, often leaving a clear straight trunk two-thirds of the way up the tree. It seems to grow best on sandy-loam soils in association with white pine, maple, yellow birch or aspen. However, the white spruce will also grow on low wet ground with balsam fir and black spruce. Large stands of pure white spruce are not common. It usually grows in mixed stands associated with other species.

White spruce flowers appear in May and June in clusters near the top of the tree. By the end of the summer the cones mature and the seeds are discharged in the fall shortly before the cones fall off. The seeds are small and have wings. Approximately 230,000 seeds weigh one pound.

The wood of the white spruce is not of high quality when compared to many of our hardwoods. It is pale yellow, straight-grained, soft and weak. A cubic foot, when dry, weighs about 28 pounds. Its principal use is for pulpwood, but may be used for lumber for interior finish work, boats and canoes, oars and paddles, and sounding boards for musical instruments. The logs were often used for log cabins because they are straight and easy to work with, but they are subject to insect infestation such as carpenter ants or wood sawyer beetles.

The beauty of the white spruce may be its prime value. Some 18 varieties of white spruce have been developed for ornamental planting purposes. It is the favored species for Christmas trees and is widely planted in nurseries. However, nowhere is the beauty of this species greater than growing in its native habitat of our forests.



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