

BOGDIVERSITY THURSDAY



—*from Head Naturalist Clinton*

Black Spruce

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One of the most important components of bog habitats are a group of trees called Lowland Conifers. These trees are characteristic of the swamps and bogs of Northern Minnesota and include Black Spruce, Tamarack, and White Cedar. Our second Biodiversity Thursday post is dedicated to one of these trees: Black Spruce!

Black Spruce is one of the defining tree species of peatland habitats: able to tolerate acidic, wet, extremely cold, and nutrient poor conditions. In these poor growing conditions, Black Spruce may not reach heights of 20 feet, but can live there for up to 250 years! In more suitable growing conditions, they can reach over 80 feet tall. Typically, a skinny, scraggly, and small coned conifer it often looks quite unkempt though they are completely healthy.

These long-lived trees are considered to be a keystone species in the boreal forest. Keystone species are incredibly important to the ecosystems where they are found, such that removing them from an area has cascading negative effects on the entire ecosystem.

Black Spruce provide food, shelter, and structure for a wide variety of species in a habitat without much other than miles of sphagnum moss. As Black Spruce grow, they often will sink into the bogs where they are growing, which can kill their roots. This tree has two ways around this problem to allow it to survive:

It will grow new root systems on top of the old and dying root systems, continuing this new growth for many layers if necessary. And if that doesn't work and the tree is killed, these roots will give rise to new trees which will grow up from the newest root systems. These root mats also create microhabitats, which are utilized by a number of species during the summer and winter.

Black Spruce is a marvelous tree! Because of its impact on the greater ecology of the area, the noted increase in logging of this species was the impetus to start our organization. Without Black Spruce, there would be very few bog specialist species calling the Sax-Zim Bog home during all seasons.

More information is included with each photo.

(Photos below by Head Naturalist Clinton and Sparky Stensaas)



Black Spruce have very shaggy bark. This characteristic of their bark is useful to a number of species from spiders to Canada Jays! Canada Jays hide their meat caches underneath bits of shaggy bark.



These are the young female cones of Black Spruce! Conifers have both male and female cones, with female cones being found at the top of each tree and male cones lower on each tree. Wind blows pollen from the male cones around, fertilizing the female cones of surrounding trees.



This is a typical view of the understory of a Black Spruce/Tamarack bog. If you have walked through any of the Friends of Sax-Zim Bog properties, you likely have seen or touched or smelled Black Spruce!



Connecticut Warblers rely on Black Spruce and Tamarack bogs in our area. This species needs large tracts of intact forest, with a diverse understory for nesting.



A Great Gray Owl perches among the Black Spruces and Tamaracks along McDavitt Road! Black Spruce offers great hunting perches and nesting habitat for Great Gray Owls in our area.