

# BOGDIVERSITY THURSDAY



—*from Head Naturalist Clinton*

## Clubmosses

POST #24—April 7, 2022

Spring snow is still lingering across Northeastern Minnesota and in between storms our next group of species featured for Biodiversity Thursday have been peeking out above the snow, especially at the bases of Black Spruce and Tamarack. Today's Biodiversity Thursday post features a very common group of species in the Sax-Zim Bog: Clubmosses!

Clubmosses are a group of species within the Pteridophytes, a related group of species which includes ferns, quillworts, clubmosses, spikemosses, and horsetails! These vascular plants reproduce with spores and are an ancient group, first appearing in the fossil record in the Devonian Period around 400 million years ago. Ferns are the most diverse member of this group of plants.

Names for clubmosses can get a little confusing. Clubmoss diversity also includes ground cedars, fir moss, and tree clubmosses though no species are related to trees or mosses! Mosses are non-vascular plants, lacking the internal structures of vascular plants. The biggest difference between clubmosses and

coniferous trees is that they lack woody stems and do not reproduce with seeds.

Whether visitors to the Sax-Zim Bog know it or not, clubmosses are one of the most common components of the understory at many FOSZB Properties! Take a walk along the Warren Woessner or Bob Russell Bog Boardwalks, you will see carpets of clubmosses alongside the sphagnum mosses creating the greenery in the understory of the Black Spruce and Tamarack bogs. There are 11 species of clubmoss documented in the Sax-Zim Bog which make up 1/3 of the pteridophyte diversity documented.

You may have already met a clubmoss and not have known it! Prickly Tree Clubmoss (often called Princess Pine) and Bristly Clubmoss (also known as Interrupted Clubmoss) are commonly used in wreath making during the holidays. The spores of many clubmosses have also been used as flash powder in early fireworks and for explosion effects in early theater productions.

More information included in the photos below, profiling a few of the species in our area!

(Photos by Head Naturalist Clinton)



Bristly or Interrupted Clubmoss is one of the most common clubmosses in the Sax-Zim Bog. These clubmosses can be incredibly abundant where you find them, carpeting the landscape.



Prickly Tree Clubmoss, known as Princess Pine, is not a pine at all! Check for the tall strobili, the spore producing structures, and lack of woody stem to identify these from conifers!



Common Clubmoss is not that common in our area, counter to its name! There are a few patches scattered through the Bog, with nice growths along Gray Jay Way!



One-coned or Arctic Clubmoss has so far only been found at one location in the Sax-Zim Bog! It looks nearly identical to Common Clubmoss, but only sports one cone per strobili.



Speaking of strobili, here is what the typical strobili look like for most clubmosses and ground cedars. Once each cone (strobilus) matures, spores are readily released at the slightest touch.



Shining Firmoss is an amazing plant! This species is found in cedar stands in our area and has huge sporangia for spore storage. This species looks very similar to Interrupted Clubmoss, but lacks strobili.