



Sphagnum Moss: A Local Marvel

Recently we held one of our CU Maurice River interpretative walks at The Nature Conservancy's Manumuskin Preserve. We trekked along the shore of the Manumuskin and enjoyed lovely views of the river. It was the end of October and we were treated to an explosion of migrating red-breasted nuthatches, of

course lots of yellow-rumped warblers, kingfishers, blue jays, owls, sparrows etc. We saw evidence of many other animals such as otters, deer, turtles, and owls.

But the hit of the day for me was an interpretative sign about sphagnum moss. It explained that sphagnum holds many times its weight in water and thus helps to thwart erosion and flooding. And it mentioned past uses like dressing soldiers' wounds, and the fact that it was "*thought to have been used by Native Americans to diaper their babies.*" This sign did as it should – it piqued my desire to find out more.

In exploring past and present uses of sphagnum I did make some fun discoveries. You are likely most familiar with its use as a soil conditioner in the form of peat moss. What you may not know is that there are at least 150 species (some sources suggest 380) found worldwide, and US Department of Agriculture's Plants Database's mapping shows it to be extant in all but two states. The evergreen perennial forms a very spongy green .4 - 4" carpet of small stems with tiny branches, topped by a cluster of green florets called a capitulum, and under some conditions it can spread and also

create a layer of vegetation many meters in depth.

The Smithsonian Institute's website (Lorraine Boissoneault at Smithsonian.com) includes an article elaborating on its uses by soldiers in World War I. In the latter part of the war (c.1914) many men were contracting sepsis, and cotton bandages were in short supply because cotton was needed for uniforms. A sterile substitute was required. It was discovered that sphagnum held twice the moisture of cotton. The moss is made up of primarily dead cells that can be filled with water, and in fact it holds 22 times its own weight in liquid.. Furthermore, due to its acidification abilities, reducing the pH levels in the areas around it and creating an unfriendly environment for bacteria, it has antiseptic properties as well, making it suitable material for sanitary health products.

One of our hikers mentioned that sphagnum moss at one time was used for feminine hygiene. I found that the National Museum of American History has in its collection a product called Sflag-Na-Kins. These sanitary napkins were made by the Sphagnum Moss Products Company in 1920.

The high acid levels in sphagnum moss are also exactly what some Pinelands plants thrive on: pitcher plant and sundew will often grow in close association with this moss.

Interestingly, sphagnum is nearly impossible to transplant because it needs the damp conditions found in pinelands streams, boreal forests, or taiga that consists of pines, spruces, larches, white cedar and fir.

In a number of Northern European countries peat from dead sphagnum moss is cut into blocks to use as a biofuel. In the process harvesters have been known to unearth ancient bodies. For centuries these well-preserved remains have fascinated scientists. Thick layers of sphagnum are responsible for keeping the bodies' skin, hair, stomach contents, nails, and clothes in excellent condition. Bones become rubbery since the sphagnum, a molecule in this reactive process, removes calcium. Skin is left like richly tanned leather. The lack of oxygen in the bog and the high pH from the moss do not support bacteria or maggots that would otherwise have decompose the bodies. And from these finds archeologists, medical professionals, and other scientists can make discoveries about people who lived as many as 10,000 years ago. You can read much more about these ancients

by checking out an article by Kristen French on a science journalism website - Nautilus.us. The photographs of these people are riveting.

Want to learn more interesting facts about the plants and animals we share the planet with? Join us on a CU Maurice River outing; you can find our event calendar at www.cumauriceriver.org.