

## January 2016 Plant of the Month



*Sphagnum spp.*, The Sphagnum mosses

January's *Plant of the Month* is not a vascular plant. The Flora of New Jersey Project's goal is to document the existence and distribution of our native vascular flora. This vascular flora, however, is many times dependent on other members of the Plant Kingdom. The mosses, the members of the non vascular plants we call Bryophytes, are ecosystem anchors, providing pioneer soil covering as well as providing a seedbed and rooting substrate for a myriad of wetland plants.

One moss genus, *Sphagnum*, is especially important to many critical FNJP species. Vascular species such as our terrestrial orchids in the genus *Platanthera* (*P. blephariglottis*, *ciliaris*, *cristata*, *integra*, *nivea*), and other wetland orchids such as *Arethusa bulbosa*, *Calopogon pulchellus*, and *Pogonia ophiglossoides* are dependent on New Jersey's native *Sphagnum* for seed beds and rooting substrates. Many native lilies adapted to our low nutrient wetlands also have similar seed establishment and rooting associations in sphagna. Species such as *Helonias bullata* and *Maianthemum virginicum* are two species that immediately come to mind. Red maple, pines, white cedars and other wetland trees and shrubs are often rooted in sphagna. The moss provides consistent moisture and space from competition, thus proving a seedling the base from which to mature.

*Sphagnum* is often a pioneer plant. It colonizes disturbed muck and acidic wetland soils. It is also an essential ecosystem creator. The establishment of *Sphagnum* mounds is essential to the establishment of so many Pine Barrens species such as *Carex exilis* and *Drosera rotundifolia*. *Sphagnum* is also an indicator of ecosystem change. The acid level (low pH) is essential for the growth and persistence of sphagna. Any modification such as rising pH affects the health of this telltale plant. Hydrology is also a physical landscape feature visible through the lens of *Sphagnum* moss. Extended droughts will cause the moss to whiten and become more brittle to the touch. This indicates the lack of persistent surface waters or a connection to groundwater.

New Jersey is a rich environment for the genus *Sphagnum*. We are also lucky to have a number of *Sphagnum* moss experts in our State, making the difficult task of identification somewhat less painful! Dr. Eric Karlin, Ramapo University, lists 52 species native to New Jersey. According to Ted Gordon, there are as many as 40 species present in our Pine Barrens.

The Flora of North America authors report on new molecular tools that help study the relationships in this genus. Recent work on Western North American species indicates a complex that overlaps physical traits and molecular similarities. Some findings indicate the former perceived relationships found across broad geographic distances may actually represent individual species. This new work may influence the final species count and tally list for New Jersey's peat mosses.

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