

Growing a Moss Garden In Central Florida

By Marti Wolf

What if, in addition to aesthetic value, one offered a resting place and home for local wildlife and provided nesting material for birds, all while requiring little maintenance?

That's possible with a moss garden. While rare in Florida, with some planning and the right conditions, a part of your own landscape could become an oasis for local animal species and provide a visual delight by installing a moss garden.

Moss are a type of plant called bryophytes that have no roots and produce no flowers or vegetation. Instead, they have rhizoids - hairlike structures - that allow them to grow on surfaces like rocks and trees. Because moss lacks a complex root system, they absorb nutrients from their rhizoids or from the surrounding air.

Growing moss requires indirect sunlight and moisture, with higher moisture level promoting faster growth. Most mosses are only a single leaf layer thick, meaning during dry periods it is easy for them to completely dry out. Luckily, moss is hardy and easily reconstitutes in the rain or with watering.

Mosses don't require much maintenance. They don't need to be treated with pesticides or fertilizers, require minimal watering, and don't inhibit the growth of grass because they are grown in shaded areas. Mosses also work well in areas of gardens that don't offer the sunlight necessary to grow many flowers or shrubs.

Since they do not have roots, it is necessary to make sure no weeds or debris cover the moss, preventing it from absorbing water and nutrients. Some moss cultivators suggest placing a net over the moss and occasionally shaking any leaves or detritus material off of the net for easy upkeep.

The use of natural limestone and coquina rocks offer a great way to introduce mosses into your garden, as the porous nature of the rocks allows the moss to anchor on to the surface easily. Several species of moss are especially well adapted to this kind of surface: Entodon, Hedwigia, and Ceratodon.

There are (77) species of moss recorded in the Central Florida with vastly different vegetative and reproductive structures and a close look is very rewarding.¹



Leucobryum albidum

The most abundant of these species is *Leucobryum albidum* (Dicranaceae family), which forms a large conspicuous mats on the dry ground of shady Pine Flatwoods and Oak Hammocks. Like most mosses, *Leucobryum* soaks up water from rainstorms and dries out in between. The leaves of this specie are unusually thick and there are several layers of cells, with only the single central layer being green. Above and below are essentially empty cells that fill up with water during a rainstorm.¹ In most mosses, as mention above, leaves are just one cell thick, and dry up rather quickly during dry weather. Mosses in general can tolerate desiccation for long periods of time, and spring back to life quickly when wet.

The distinctive succulent leaves of *Leucobryum* are short, stiff and folded lengthwise, creating a distinct upper groove. The leaves are crowded at the ends of upright stems, and the sporangia emerge from the tips of the stems.¹



Magnified view of *Leucobryum*

Another species, *Leucobryum glaucum* has longer leaves, but is not as common and grows in somewhat moister areas.



Leucobryum glaucum

Wildlife Benefits of Moss

Beyond the ease of growing moss, Cathy Burk of the Habitat Network describes the incredible benefits moss provides for local wildlife.

Fireflies seek moisture to lay their eggs, and mosses that you grow can offer the perfect home for young firefly larvae. Once they mature, you will be treated to the twinkling dancing of lightning bugs on summer evenings which are a rare treat since these insects have been extirpated from many areas in Florida.

Insects commonly live in mosses, and these plants teeming with life offer food for Florida native birds. Some birds also use pieces of the moss as soft construction material for their nests.

Mosses are environmentally beneficial as well. Like any photosynthesizing plant, they “fix” carbon dioxide, reducing the amount of the greenhouse gas present in the atmosphere.

If your moss can anchor itself in soil, it helps prevent erosion. The rhizoids hold the soil in place and can limit the amount of dirt washed away during rainfall. If your soil is nutrient-deficient due to continued erosion or just the regional soil quality, moss can most likely grow in these patches and prevent further damage since it doesn't require a high level of nutrients from its substrate.

Another type of moss that may come to mind is Spanish moss, often seen hanging from the trees throughout Florida. Spanish moss is not a moss, but it does have some of the ecological benefits of the mosses discussed. Spanish moss, *Tillandsia usneoides*, an epiphytic flowering plant, is a bromeliad, a category of plant that grows on other plants and absorbs water and nutrients from the air like bryophytes.

Because Spanish moss only uses the plants it grows on for structural support, it does not deprive the housing plant of any water or nutrients. Already healthy trees do not suffer any adverse effects from the presence of the stringy plant and it provides nesting spaces butterflies. Insects use Spanish moss for cover and birds commonly use the plant in the building of their nests. Some amphibians, reptiles, and bats can also use the moss as a form of shelter.

Tillandsia usneoides is native to Florida and has many of the attributes of moss, including its ability to survive during dry periods due to water retention and benefits to wildlife.

Whatever moss or epiphyte you choose to grow in your garden, it will provide a wealth of ecological benefits and interesting viewing.

¹ Frederick B. Essig, Associate Professor Emeritus, Department of Integrative Biology, University of South Florida