



**Wisconsin Woodland Owners Association**

*Creating tomorrow's woodlands today*

## ***Kick Off Your Week by Learning Something New: Marcescence-The Tenacity of Trees***

Some deciduous trees are quick to release their leaves in the Fall, while other species cling to theirs, perhaps offering us a lesson in persistence and the value of holding on throughout the cold seasons of life.

Marcescence (pronounced *mar-sess-uhns*), by definition, means to wither but not fall off. American Beech, American Hophornbeam, Witch Hazel, and members of the Oak family all demonstrate marcescence. This phenomenon is most common during a tree's youthful years but may also occur on the lower limbs of more mature trees. True marcescent species hold their leaves all the way until spring. Invasive species such as buckthorn tend to hold their leaves later into the fall, and abnormal weather patterns (as we're seeing this year) may also contribute to certain species holding out for a bit longer, but this does not make them marcescent.



Kristen Summers  
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Skunk and Foster Lakes State Natural Area

Scientists don't know exactly what the purpose of trees exhibiting this behavior is, but multiple theories have been proposed. One thought is that the marcescent species are **evolutionally delayed**. It is believed that the first plants that existed on Earth were only evergreen, and that deciduous trees are the result of **seasonal changes**, driving the evolution of leaf abscission layers being developed. The word abscission comes from the Latin "to cut away." This layer is the formation of cells near the base of the leaf stem (*petiole*), where the leaf attaches to the branch. Under normal circumstances in deciduous species, this layer allows leaves to drop during the fall. However, in species that display marcescence, this layer remains undeveloped until spring.

Another notion speculates that holding onto the leaves allows shelter for wildlife. Although, adaptations are meant to enhance the survival of the individual species, not others, so, the only reasoning for this would be the fertilizer produced by the sheltered wildlife. Others have theorized that **marcescence** is a trait that offers protection for new twig and bud growth. Because the leaves are bitter to taste, of low nutritional value, and rustle when moved, it is thought that these factors could potentially deter herbivores in search of winter food sources. Retention of leaves may also act as a form of insulation, inhibiting frost damage. Additional hypotheses exist that say marcescence is conducive to more efficient nutrient cycling and moisture retention in the springtime. An **article** in *Ecosphere Journal*, published by the Ecological Society of America, explores these theories and more.

Do we always need a definitive answer as to why things are the way that they are? Or can we accept it as is, leave it as a source of intrigue, and simply appreciate the ethereal beauty that it brings to our landscape during the barren months of winter?



There are always lessons to be found and wisdom to be gained through the silent observation of nature. Through marcescence, may we take a moment to consider that there may be some validity in the age-old proverbial "good things come to those who wait". Holding on, when it might be easier to let go symbolizes courage, patience, hope for a better future, and deep reserves of strength. We'll conclude with a link to an article from Marginalian on ["What Trees Teach Us."](#)

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