

Linden Tree (*Tilia species*): The Bee Tree

by Gary Carlin

When the linden tree or basswood tree flowers trust me you will know it, as their sweet perfume fragrance seems to hover around the trees as you pass by. The trees can be detected almost a mile away by their smell alone. This may be why the linden tree was the favorite tree of the great American author, poet, philosopher and naturalist, Henry David Thoreau. Bees are also acutely aware of the sweet nectar that is released from the flowers in late July to attract them for their pollination services. However, the bees must act quickly because the nectar will only be available for three weeks. The linden tree is such a favorite of the bees that it's sometimes called the "bee-tree". Bees produce a highly-prized, "water-white" colored honey from the linden tree nectar.

If you look hard enough at the bark of a linden or basswood tree it is said you can see the face of a Celtic *Tree Spirit*. The fresh wood of the linden tree was once used to treat liver and gallbladder disorders, while charcoal produced from the burned wood was mixed with food to cure intestinal disorders. It was also applied directly on the skin to treat infections, inflammations, or ulcers. In the northeastern United States, the bark of the tree once was used as a common roofing material known as "bark shingles".

The linden tree is one of our lightest and softest hardwoods, so it is highly prized sought by wood carvers and whittlers to carve the finest of details. Its fine light grain and softness make it ideal for carving without splitting or cracking. In the Middle Ages, linden tree wood or as it was called "sacred wood" (*lignum sacrum*) was used to carve wooden statues of Virgin Mary or the other saints for churches and homes. Native Americans (Algonquin, Cherokee, and Iroquois) even carved the wood while it is was "green" on the tree to make ceremonial masks that were cut out later. In musical instrument production, basswood has been used to make piano sounding boards, electric guitar and bass bodies and necks, the outer shells of drums, and recorders. For the same reasons, it was the wood of choice for marionettes, puppets, and early prosthetic limbs.

Interestingly, our modern culture of "throw-away" materials may've begun in the 19th century, when thinly sliced linden tree wood was used to make millions of small wooden baskets that berries and fruits were sold in – then thrown away. Linden was the wood our fore fathers used to carve a ship's figure head, a cigar store Indian, a duck decoy, or even a Viking shield. Before less expensive synthetic materials, it was used to make window shutter and blinds. Today you can still find it turned into wooden broom handles, yardsticks, fruit crates, kitchen utensils, artist charcoal, and as pulp to make paper.

The linden trees other name, basswood, has nothing to do with fish (bass) but with "bast", a tree's fibrous inner bark. In basswood, these fibers are extremely long and have been used to produce cordage (cords or rope) and textiles. Rope, nets, woven bags, baskets, belts, snowshoe netting, mats, lashings, bindings, clothes, bow strings and even very thin fishing line and sewing thread were all made from linden bark. After being stripped from a tree, the bast had to be soaked in water for two to four weeks to loosen its fibers. Linden tree or basswood fibers are not the strongest plant fibers, but its advantage comes from the large amount of fibers present and their long length.

Unfortunately, the taxonomy of the *Tilia* genus is extremely difficult to classify a sample, because different species readily interbreed to produce hybrid species. The genus name, *Tilia*, is from the Greek word (*ptilon*) for "wing". The flower clusters of the linden tree have very long, golden-yellow bracts (leaf-like structure just below the flower). The most common theory is that their evolution provided increased distances of seed dispersal, since the wing made it easier for the wind to move the seeds. However, another recent theory suggests the wings are "flags" to guide nocturnal pollinators such as moths to the small flowers in the dark.

The small, round, hairy fruits or nuts (hard outer covering with one to three seeds) that are produced are an excellent source of food for small animals and can remain on the tree throughout the winter. Linden tree nuts were ground up into chocolaty tasting paste, a kind of chocolate substitute of the day. Or they were roasted and ground into a “mocha-java” tasting coffee substitute.

If you were asked if you could eat a tree, the answer for the linden tree would have to be absolutely yes. The young, smaller, lighter colored leaves make excellent raw greens. They are not generally cooked as they shrink and lose their flavor very quickly. Native Americans collected the tree sap and boiled it down to a sweet flavored drink. And they also quickly learned that the *cambium*, the layer between the inner bark and the wood, was quite nutritious and could be made into soups and breads. The trick is to harvest the cambium in the early summer when the tree is most actively growing and the cambium layer is at its thickest. The best method is to carefully peel the bark off the tree and then scrap off the slushy material (cambium) with a knife.

The flowers of the linden tree are also edible and make an excellent tea. Although dried flowers can be used alone in making tea, it is more common that dried leaves and flowers are used, such as in the French tea, *Tilleul*. The flowers contain flavonoids that have antioxidant properties and protect the liver (hepatoprotective). The flower tea has diaphoretic qualities so it will help the body sweat so it can be used to treat fevers, colds, and the flu. Linden also has nervine qualities so they can be used to treat epilepsy, nervousness, insomnia, headaches (migraines), cramps, and spasms. Externally on the skin, it has been used to treat boils, sores, and inflammation. Double flowered species are used for their fragrance in perfumes.

In 17th century England, people used linden trees as border plants. However, they trimmed and pruned them like hedges in a process called “pleaching”. Sometimes interesting and grotesque figures were cut into the trees like what is done today in topiary gardens.

The linden tree or American basswood is a common species in the deciduous forest of the U.S. The Little Leaf Linden trees of *Joseph Rodman Drake Park* are a fast-growing, ornamental species that is commonly planted for their size and the deep shade they produce. As linden trees age and grow they often become hollow in the center and produce cavities for animals (squirrels, woodpeckers, owls, raccoons, porcupines, and sometimes even bears) to live in. The fruits are important foods for local birds, squirrels, and other small animals throughout the winter.
