

# London Plane Tree (*Platanus × acerifolia*): The Hippocratic Tree

by Gary Carlin

The London Plane tree is a hybrid of the *Oriental Plane* (*Platanus orientalis*) and the *American Sycamore* (*Platanus occidentalis*). A common speculation is that this hybridization occurred from closely-planted trees in Spain in the 15<sup>th</sup> century. Others maintain it occurred sometime around 1637 in English gardens kept by Charles I gardener, John Tradescant. Regardless, what is fact is that two trees from different parts of world had to have shared time together in close proximity.

The tree's smooth outer bark is brown, gray, yellow, and even greenish (olive) in color. One of the most distinguishing characteristics of the London Plane is its peeling bark that comes off in large irregular flakes to reveal its cream colored inner bark. Some researchers believe this is its way of removing unhealthy pollutants, a kind of "self cleaning process" for the tree. True or untrue, the tree is extremely tolerant of pollution in our cities.

It was challenging for our science team to determine if the trees of Drakes Park were American Sycamore or London Plane. One of the determining characteristics was the depth of the leaves sinuses (indented space between the leaf's lobes). The London Plane has deeper sinuses than the American Sycamore. Secondly, the length of the central lobe is longer than the leaf's width. In the American Sycamore it is the opposite, a width larger than the length. A third piece of evidence is that the trunk of Drake Park trees still have a mix of brown, grays, yellows, and greens that is typical of the London Plane. In comparison, the American Sycamore's trunk typically changes to become a "scaly dark brown". And if when we looked more closely we saw that the trees had 2 to 3 fruit heads on a stalk, and not a single bud like the American Sycamore.

Very small clusters of yellow male flowers and red female flowers appear on the tree at the same time. When pollinated and fertilized by the male pollen, the female flower becomes a fruiting ball ("pompoms") that ripens slowly (6 months), and by October will be brown. A fruit ball is really a collection of tiny seed like fruits (achenes) with fine hairs or tufts that are closely packed together. In the fall the fruit ball will begin to break apart releasing in seeds into the wind for dispersal. The hairs or tufts act like wings to help carry the seeds in the wind. It is quite common to still see the fruit balls hanging from the tree well into winter.

If you feel the leaves of a London Plane and then compare that sensation to another tree's leaf you will immediately notice that they appear to be thicker than most leaves and therefore have a stiffer texture. Take the time to compare the leaf to the leaves of the Norway Maples in Drake Park. In fact, London Plane leaves are often described as maple-like. Hold the Norway Maple leaf and the London Plane leaf up to the leaf on the Parks Department sign and determine which one is most similar. There has been a lot of controversy about this over the years because the leaf used to represent the Parks Department is a "stylized leaf" and not an actual leaf. And in fact the actual leaf design has changed numerous times over the years. It has been identified as a London Plane, a Sycamore, a Maple, and a Sycamore Maple or a combination of these trees. Only Robert Moses, who loved American sycamore, could have told us for sure.

Not surprisingly from its name, the London Plane Tree is London, England's most planted tree (over 50% of all planted trees). The London Plane is a large tree (60-120 ft.) and is messy with its constantly dropping leaves, bark, fruiting balls and seeds, so it is not really an ideal street tree. In addition its expansive root system has broken-up many sidewalks and created problems in sewers. In order to maintain the trees size, a type of pruning called "pollarding" is done in which the upper branches of the

tree are removed. This not only limits the tree's growth, it cause the tree to produce a dense canopy of foliage

Some people who suffer from allergies blame the pollen and fine hairs from the seeds called *trichomes* for their nasal, throat, and eye irritations. Currently it is on the NYC Parks Department restricted list for street trees. Yet, don't think you won't see them on the streets because they make up over 10% of the cities trees. London Plane trees were generally favored over American Sycamores because they were thought to be more resistant to a fungal disease, *anthracnose*, however, now researchers are not clear on this. Infected London Plane trees will often lose their leaves earlier on in the growing season and then need to replace them with a new set of leaves. Now we have London Plane cultivars such as "Columbia" and "Liberty" that are resistant to the fungal infection.

The wood from plane trees is called "lacewood" due to its lacy appearance (described as "dark reddish brown flecks against a lighter background"). It is relatively strong wood and has been used in indoor furniture, but is not common. Just like the maple tree the sweet sap can be collected from the London Plane. In Kashmir, a dye was produced from the roots and stems of the tree to color fabric, and the bark was once used as a medicine for diarrhea and liver problems. According to ancient historians, Hippocrates, the father of medicine, planted a plane tree on the Greek Island of Kos, and when grown, he sat under this tree to teach. The tree is largest plane tree in Europe with a diameter over 12 meters. Local tradition says this is the same tree that the Apostle Paul sat beneath when he came to the isalnd to preach Christianity.