The Bronx River Forest is one of the oldest forests in New York City and remains a remnant of the magnificent hardwood forest that once blanketed our region; even after decades of industrialization and social change. Today, thanks to the Bronx River Alliance’s aim to improve, protect and restore the Bronx River and its corridor; it is the home to many native wildlife and plant species located in the Bronx Area. The Bronx River Corridor with its immense history is not only a part of our past, but also a part of our present, and ultimately our future. Therefore it is important to enjoy the wonders that it has to offer not only by providing us with bountiful education resources, but also with peace and tranquility.
To successfully be able to identify trees one must first understand that trees are not only diverse in name. There are many factors found in a forest that can help in identifying trees, such as habitat. Trees just like animals grow and thrive in different climates and habitats, for example pin oaks are often found in swampy poorly drained floodplains. While going through this tree guide you will not only learn the names of many of the native trees found in the Bronx River Corridor, but basic identification techniques that will help you group and easily remember them. By following the table of contents below you will slowly find yourself becoming more confident about your tree identification skills, good luck and enjoy!

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<th>Deciduous or Coniferous</th>
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<td>Sycamore</td>
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<td>Honey Locust</td>
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Deciduous plants are those that lose their leaves for part of the year. This process is called abscission. Abscission is more technically defined as the shedding of a body part. For plants, this would mean the shedding of important parts such as leaves, fruit, flowers and seeds. In the case of cool climate plants, the period of abscission would occur in the winter, while for tropical plants it would occur in the dry season. Unlike deciduous trees, conifers or evergreens, are trees with needle like leaves and cones, which normally keep foliage throughout the entire year.

Silver Maple is a Deciduous tree
*Acer saccharinum*

Eastern Hemlock is a Conifer
*Tsuga canadensis*
One of the easiest ways to identify trees is by identifying the types of leaves they have. Leaves come in different shapes, colors and sizes. When identifying leaves by type they can be either simple or compound.

**Simple**

![Simple Leaf]

**Compound**

![Compound Leaf]

When identifying leaves by arrangement, they can be either opposite or alternate.

**Opposite**

![Opposite Leaf]

**Alternate**

![Alternate Leaf]

Based on these leaf types and arrangements, leaves can be classified into four large groups.

**Simple and Opposite**

![Simple and Opposite]

**Simple and alternate**

![Simple and alternate]

**Compound and Opposite**

![Compound and Opposite]

**Compound and alternate**

![Compound and alternate]
After classifying leaves by arrangement or type it becomes important to a detailed look at some more specific characteristics, such as leaf shape, leaf margin, leaf apexes and leaf base. These four characteristics will distinguish for example two trees that both have simple leaves with an opposite arrangement from one another, allowing one to do a more specific identification.

**Leaf Shapes**

<table>
<thead>
<tr>
<th>Linear</th>
<th>Elliptical</th>
<th>Oval</th>
<th>Lanceolate</th>
<th>Deltoid</th>
<th>Ovate</th>
<th>Orbicular</th>
<th>Obviate</th>
<th>Star-shaped</th>
</tr>
</thead>
</table>

**Leaf Margins**

<table>
<thead>
<tr>
<th>Entire</th>
<th>Dentate</th>
<th>Toothed</th>
<th>wavy</th>
<th>Double serrate</th>
<th>Lobed</th>
<th>Incised</th>
</tr>
</thead>
</table>

**Leaf Apexes**

<table>
<thead>
<tr>
<th>Acuminate</th>
<th>Acute</th>
<th>Obtuse</th>
<th>Truncate</th>
<th>Bristled pointed</th>
<th>Rounded</th>
</tr>
</thead>
</table>

**Leaf Bases**

<table>
<thead>
<tr>
<th>Wedge Shaped</th>
<th>Oblique</th>
<th>Rounded</th>
<th>Heart Shaped</th>
<th>Truncate</th>
</tr>
</thead>
</table>
Tree Bark Rubbing

Give each student a sheet of paper and a crayon, and have each student peel off the paper around the crayon.

Have the students pick a tree that they want to identify and have them place the sheet of paper over the tree's bark, either by holding it with their hands or attaching it with tape onto the tree.

Once that is done they can start to rub the crayon on the paper so that the pattern of the bark can print onto the paper.

Once every student has their tree rubbing, have them sit and compare the differences and similarities between the bark of each tree.

Although bark rubbing can be an excellent way to properly identify trees, it is not the best, due to the fact that not all trees have the best surface texture. An example of this is:

River Birch
http://homepage.mac.com/cohora/plants/birch.html

Tree species are not only diverse in the types of leaves they have, but they also have different types of bark. The bark of a tree acts as a protective coat for its sensitive cambium layer. The porous layer allows the tree to breathe and protects it from extreme weather conditions, intense sunlight, disease and/or lacerations. These are some basic bark types which differentiate one of the trees from another and will allow you to have another method of identifying a tree.

- Scaly
  - Sweet Gum Tree
  - Liquidambar styraciflua

- Furrowed
  - Black Cherry tree
  - Prunus Serotina

- Shaggy
  - Shag Bark Hickory Tree
  - Carya ayata

- Papery
  - River Birch Tree
  - Betula Nigra

- Spikey
  - Honey Locust tree
  - Gleditsia triacanthos

- Smooth
  - Black Cherry tree (Young)
  - Prunus Serotina
Although identifying trees by their fruit is not the easiest, it helps to know what type of fruit a tree bares. There are four general fruit types simple, aggregate, multiple, and accessory.

**Simple Fruits**: Fruits that develop from a single ovary and flower. Within this category are fleshy fruits and dry fruits.

**Aggregate Fruits**: fruits that develop from the fusion of many individual reproductive organs in an individual flower; these reproductive units can also be referred to as carpel's. Carpels are comprised of an ovary, a style and a stigma, which collects the pollen at its tip. A fruit can contain more than one carpel depending on what type of fruit it is.

**Multiple Fruits**: fruits that develop from the ovaries of individual flowers which are all on the same style or stalk.

**Accessory Fruits**: Fruits that develop from and the ovary of an individual flower, but also from tissue surrounding it.
Common Trees

In this section we will use some of the basic tree identification techniques that have been addressed throughout this guide and apply them to some of the common trees found in the Bronx River Corridor. When identifying trees it is very important to write down detailed descriptions and gather as much information possible so that each tree can be uniquely distinguished and easier to identify in the future.

**River Birch**  
*Betula nigra*

- Alternate leaves
- Leaf Shape: deltoid
- Leaf Margin: toothed
- Leaf Apex: acute
- Leaf Base: wedge shaped
- Papery bark
- Mostly tolerant to both wet and dry soils
- Bronx River location: Shoelace Park, South Forest and North Forest

**Cottonwood**  
*Populus fremontii*

- Alternate leaves
- Leaf Shape: deltoid
- Leaf Margin: dentate
- Leaf Apex: bristle pointed
- Leaf Base: truncate
- Furrowed bark
- Tolerant to flooding and erosion/flood deposits surrounding the wood.
- Bronx River location: Soundview

**Red Maple**  
*Acer Rubrum*

- Opposite leaves
- Leaf Shape: star shaped
- Leaf Margin: incised
- Leaf apex: truncate
- Leaf Base: heart shaped
- Shaggy bark
- Bronx River location: North Forest, South Forest, and Shoelace Park
**White Oak**  
*Quercus Alba*

Alternate leaves  
Leaf Shape: Obviate  
Leaf Margin: Lobed  
Leaf Apex: Rounded  
Leaf Base: Wedge shaped  
Scaly bark

**Red Oak**  
*Quercas Alba*

Alternate leaves  
Leaf Shape: obviate  
Leaf Margin: incised  
Leaf Apex: truncate  
Leaf Base: wedge shaped  
Scaly bark  
A good street tree that tolerates pollution and compacted soil  
Bronx River Location: Shoelace Park

**Black Willow**  
*Salix Nigra*

Alternate leaves  
Leaf Shape: elliptical  
Leaf Margin: entire  
Leaf Apex: acuminate  
Leaf Base: wedge shaped  
Scaly bark  
Aid in stream bank stabilization  
Bronx River location: Shoelace Park

**Sassafras**  
*Albidum*

Opposite leaves  
Leaf Shape: elliptical outline  
Leaf Margin: entire, 2 or 3 lobed  
Leaf Apex: acute, or obtuse  
Leaf Base: wedge shaped or rounded  
Furrowed bark  
Can be used for medicinal purposes and its roots can be used to make a flavorful tea.  
Bronx River location: Fort Knox
Pussy Willow  
*Salix discolor*  
Alternate leaves  
Leaf Shape: elliptical  
Leaf Margin: entire  
Leaf Apex: rounded  
Leaf Babes: rounded  
Furrowed bark  
Its natural growth is in wet habitats  
Bronx River location: Shoelace Park, South Forest, 233rd Street.

Sycamore  
*Platanus racemosa*  
Opposite leaves  
Leaf Shape: orbicular  
Leaf Margin: dentate  
Leaf Apex: truncate  
Leaf Base: heart shaped  
Furrowed bark  
Lives best in moist soils  
Bronx River Location: Cricket Pitch, North Forest

Honey Locust  
*Gleditsia triacanthos*  
Opposite leaves  
Leaf Shape: elliptical  
Leaf Margin: entire  
Leaf Apex: rounded  
Leaf Base: rounded  
Spiky bark  
Tolerant to pollution salt and drought  
Bronx River location: Behind French Charlie

Sweet gum  
*Liquidambar Styraciflua*  
Alternate leaves  
Leaf Shape: star shaped  
Leaf Margin: toothed  
Leaf Apex: acuminate  
Leaf Base: truncate  
Scaly bark  
Does not tolerate polluted sites  
Bronx River Location: North Forest
Location Key:
Fort Knox: located right below Gun Hill Rd.
Shoelace Park: located between 211th street and 233rd street.
North Forest: located between Burke Ave. (Burke Bridge) and Fort Knox
South Forest: located between Burke Ave. (Burke Bridge) and Kazimiroff Blvd.
Resources and Bibliography

Resources key:

* Photography
F Factual Reference


* Photographs courtesy of About.com/ Forestry


* Photos also provided by Clipart ETC. http://etc.usf.edu/clipart/searchEverything.php