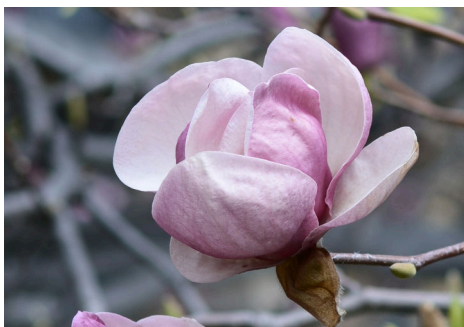


GUIDE TO CAMPUS TREES

Forestry Graduate
Students Association



For Deborah Paes

*Without your support and hard work over the course of your career, none of us would be where
we find ourselves today.*



PREFACE TO THE THIRD EDITION



The initial idea for the guide came to me as an MFC student in the fall of 2018. As someone completely new to the field of forestry, I was mildly horrified to discover that I would have to be able to identify more than fifty trees at a glance. For example, I certainly did not feel able to contribute anything useful to the debate Julian had gotten into about whether a tree we had seen on one of our field trips was an eastern cottonwood or a large-toothed aspen (as it turns out eastern cottonwood and large-toothed aspen are not that difficult to tell apart). Many of my classmates were in the same boat. We felt that such a guide *should* exist, and that feeling led me to plant the initial seed (in the form of a study guide) that later grew into this book.

Mapping and photography for the first version of this book was completed in the summer of 2019. At the time, the FGSA had intended for it to be a gift for the incoming MFC class. Given the high costs associated with printing, however, we decided to release the first version as a digital document. When Erez stopped by my office with a printed copy in hand in early 2020, however, we felt that with a little extra push, we could get the project over the finish line. A second conversation with Erez in early 2021 led to the addition of winter photos to the guide, bigger maps, an updated layout, and most importantly, sending the book off to the printers. The result is what you see in front of you.

The preparation of this guide was truly a team effort and it would not have been possible without the help of everyone involved. The tree ID skills of Erez and Julian in particular were essential to making this happen. While this is an FGSA guide and all of the 2019 executive have since moved on, credit is still due to that group for its creation. As such, the names listed on the credits pages are theirs. Thank you also to the 2021 FGSA for volunteering the person-hours that we needed to get this printed.

Currently, this guide contains 100 trees and shrubs, but there are many more to be found on campus. While we were collecting the winter/spring images we made every effort to photograph the same tree but construction on campus made that impossible in a few cases. As such, if you visit a tree and the bark or form looks slightly different than it does in the guide, one of the images may be of a different tree of the same species. Furthermore, the trees on campus come and go and by the time readers are able to go out and visit them all some may have been cut down. Future editions of the guide and future FGSA executives could update the images and maps, expand the list of species, add a dichotomous key, and add information about which tree species are suited to which landscape environment. The world, as they say, is your oyster. I hope that this book will continue to evolve with time, and that you learn as much from reading it as I did from the process of creating it.

– Emmett Snyder

2021-05-05



CONTENTS



About	3
Acknowledgements	5
How to Use This Guide	7
Conifers	9
Broadleaf Trees	29
Glossary	111
References	113
Index of Scientific Names	116
Index of Common Names	118

ABOUT



This guide was prepared by the 2019 Forestry Graduate Students' Association to help University of Toronto community members learn to identify tree species on campus. It is intended to be a fun and informative beginner's guide for personal use. It does not include an exhaustive inventory of all the trees on campus, nor is it an official university resource. Please be responsible when using this guide and don't go around eating things you aren't *sure* are edible!

This guide focuses on the variety of tree species across the U of T St. George campus. While there are many trees across campus, we recommend taking a stroll through Philosopher's walk, Hart House circle, and the two Earth Sciences courtyards. If you would like a more authoritative resource or field guide, we recommend *Trees in Canada* by John Laird Farrar.

While we have made every effort to ensure that the information here is both up-to-date and correct, it is always possible that we have made a mistake somewhere along the way. If this is the case, please feel free to let us know by email: fgsa@utoronto.ca. We hope that you find this guide useful.

– The FGSA

2019-06-16

Digital copies of this book are available free of charge from the FGSA website at <https://uoftfgsa.wordpress.com/guide-to-campus-trees/>.

VERSION:

3

VERSION DATE:

2021-05-05

PROJECT TEAM:

PROJECT LEAD:

Emmett Snyder

PHOTOGRAPHY AND DATA COLLECTION:

Emmett Snyder, Julian Alvarez-Barkham, Erez Sussman, Vanessa Nhan, Harris Snyder

TYPESETTING:

Emmett Snyder

COVER:

Sanjana Patel, Emmett Snyder

FEATURES TEXT AND EDITING:

Nicole Tratnik, Erez Sussman, Vanessa Nhan, Emmett Snyder, Md. Halim, Juliana Vantellingen, Julian Alvarez-Barkham, Amélie Lapointe, Shan Shukla, Joshua Quattrociocchi

GLOSSARY OF TERMS:

Amélie Lapointe

THE 2019 FGSA IS:

CHAIR:

Nicole Tratnik

VICE-CHAIR:

Juliana Vantellingen

TREASURER:

Julian Alvarez-Barkham

ATHLETIC REP:

Amélie Lapointe

RESEARCH STREAM REP/ALUMNI LIASON:

Md. Halim

MFC REP/UNDERGRAD LIASON:

Emmett Snyder

TO CITE THIS BOOK:

Forestry Graduate Students Association (FGSA). 2021. Guide to Campus Trees, 3rd edition. Toronto. 118p.

ACKNOWLEDGEMENTS



First and foremost, the FGSA would like to thank Erez Sussman for the immense amount of work he put into this project, including contributing to the data collection and photography, editing, tree identification, and reviving the project after the first version. Thank you also to Vanessa and Harris for their help with collecting the data and to Josh, Shan, and Vanessa for taking the time to sort through and organize all of the images associated with this project. Thank you also to Sanjana Patel for designing the cover.

Thank you also to the MFC class of 2020 (with a special shout-out to Emmett S, Taha S, Julian AB, Mariaelena G, and Matthew S) for providing the initial inspiration for this book. Finally, thanks are also due to Dr. Danijela Puric-Mladenovic for access to her tree inventory.

Maps were drawn using the tilemapbase python library. Under the hood, tilemapbase uses OpenStreetMap data (© OpenStreetMap contributors). This content is licensed under ODbL and CC-BY-SA2.0 and remains the copyright of OpenStreetMap contributors (2015). For more info, see the OSM copyright page.

HOW TO USE THIS GUIDE



Each page of this guide features a different tree species that can be found on campus. The species' scientific name is listed at the top of the page, followed by its common name, with its family name written in italics on the right. The scientific name includes the genus and species name in italics, followed by the scientific authority (the person credited with the use of the name). Some species contain a name in brackets: this means the species was originally described under a different scientific name, typically because it was first considered under the wrong genus, and contains synonyms. For example, the Shagbark Hickory was originally placed in the *Juglans* genus by Philip Miller and later moved to the genus *Carya* by Karl Koch. Therefore, its current accepted scientific name is now *Carya ovata* (Mill.) K. Koch. Some species have multiple accepted scientific names. If you think a tree may have a different scientific name or authority, see if it has a synonym in a database such as The Plant List (see references for more information).

Entries are sorted by leaf type (scale and needle-like, then Ginkgo, then broad), and then alphabetically by family name, then scientific name. Note that *Caesalpinaceae* is a subfamily of *Fabaceae* and has been placed with *Fabaceae* to avoid confusion.

Each species identification page also includes a map of where you can find an example of the species. Location information was pulled from image Exif data, which was obtained from the device taking the image. As a result, these **locations are only accurate to within a few meters**. If you don't see the tree you are looking for, or it looks like a tree is located inside a building, try looking around nearby or on the other side of the street.

For more information, a glossary of some common botanical terms, as well as a list of references and supporting information, may be found at the end of the guide. A sample guide page has been provided on the following page.

Scientific name Scientific authority
common name

Family



NOTABLE FEATURES
Text to help with distinctive
or identifying features

Where to find one:



CONIFERS



Callitropsis nootkatensis Oerst. ex D.P.Little
Yellow Cedar

Cupressaceae



NOTABLE FEATURES

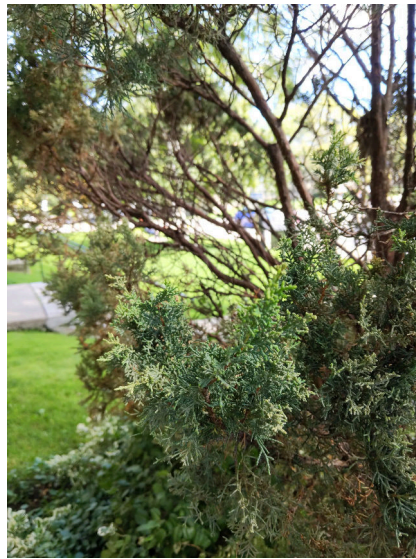
Yellow cedar is native to coastal BC, Washington and Oregon states but is often planted elsewhere (e.g. southern Ontario). Yellow cedar can be rapidly identified by its scale-like (evergreen) needles that smell when they are damaged and its drooping habit.

Where to find one:



Juniperus virginiana L.
Eastern Redcedar

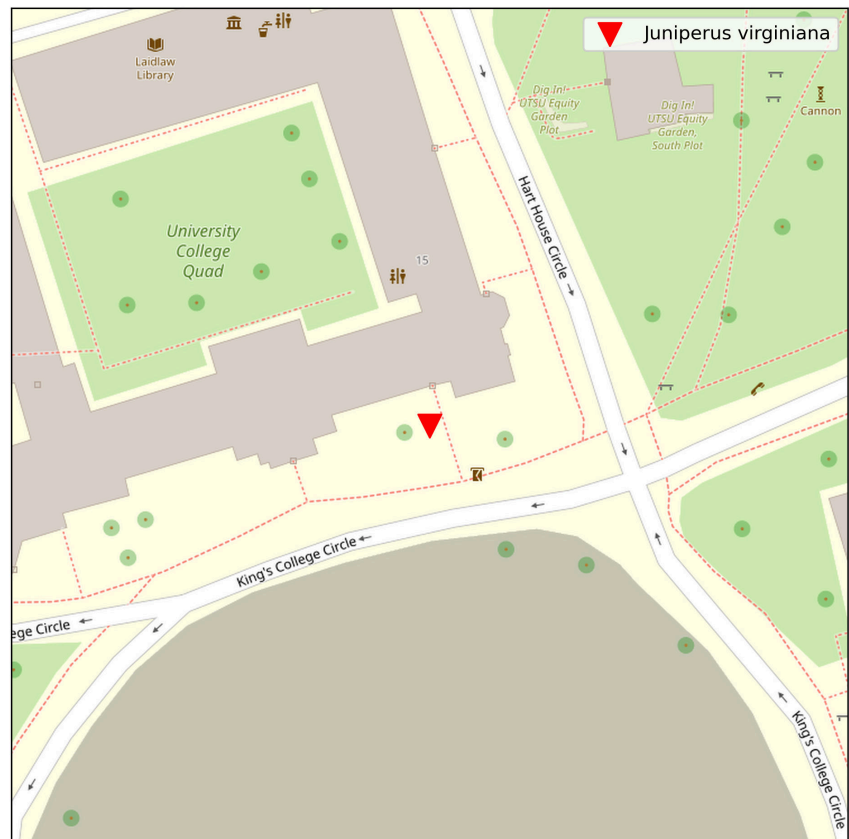
Cupressaceae



NOTABLE FEATURES

The eastern redcedar is a small tree and can grow up to 10 meters tall. Leaves are scaly and are pleasantly scented. Cones look like blue/whiteish berries. Similar in appearance to the eastern white cedar, the redcedar, also known as a Juniper Tree can have a slight blueish tinge to the foliage. Some leaves can be needle-like.

Where to find one:



Metasequoia glyptostroboides Hu & Cheng
Dawn Redwood

Cupressaceae



NOTABLE FEATURES

The dawn redwood is a deciduous conifer that sheds its needles in the fall. Needles are soft. Note the cones (pictured here) grow individually on small twigs. The bark is similar to the thin, peeling bark of cedar trees.

Where to find one:



Thuja occidentalis L.
Eastern White Cedar

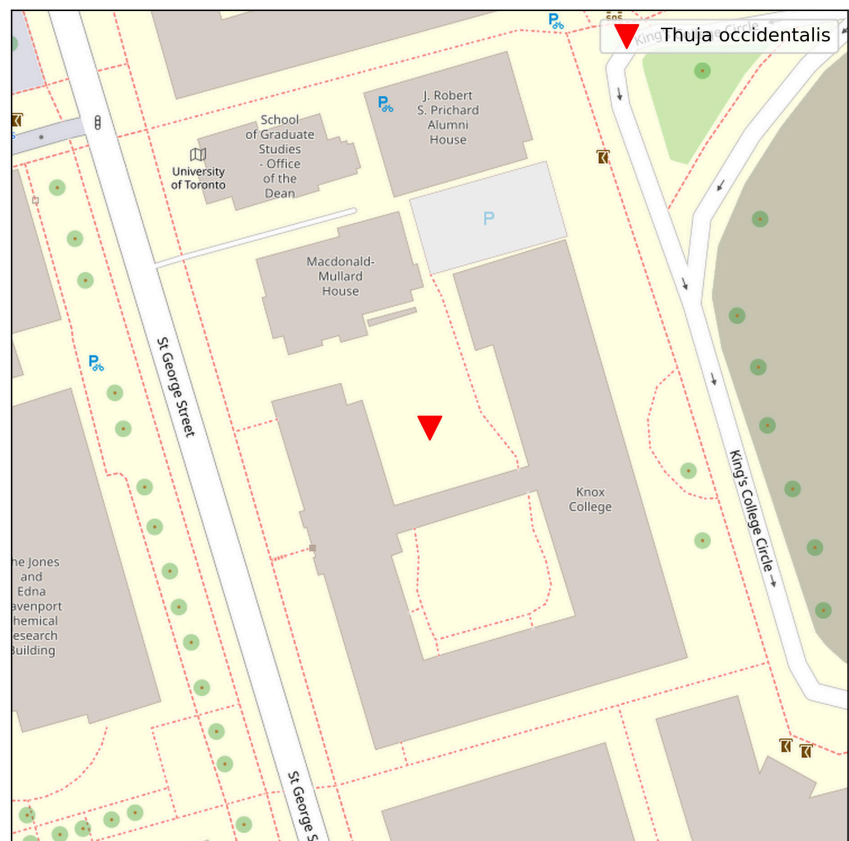
Cupressaceae



NOTABLE FEATURES

Eastern white cedar leaves are scale-like and flat. Few plants in the region look like an eastern white cedar, making them easy to spot. It is aromatic, with brown bark that peels off in vertical strips.

Where to find one:



Abies balsamea (L.) Mill.
Balsam Fir

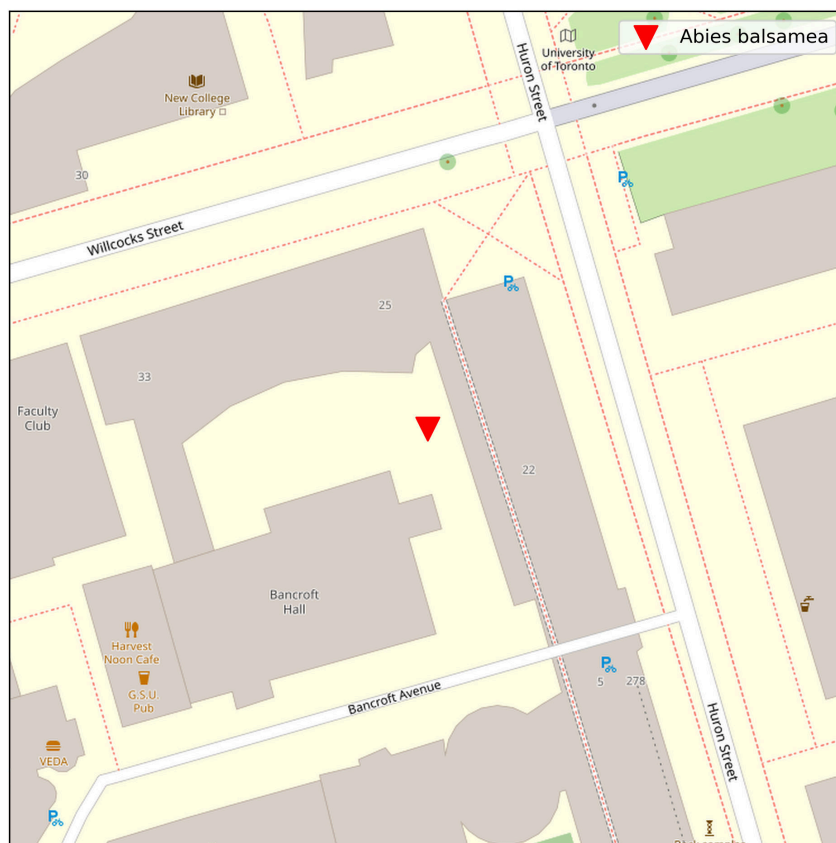
Pinaceae



NOTABLE FEATURES

Balsam fir needles are flat and arranged in a plane (rather than all the way around the twig like a spruce). The bark is covered with resin blisters, which release a pleasant smelling sap when punctured. Note that the photo of the resin blisters was taken of a mature tree off campus.

Where to find one:



Larix decidua Mill.
European Larch

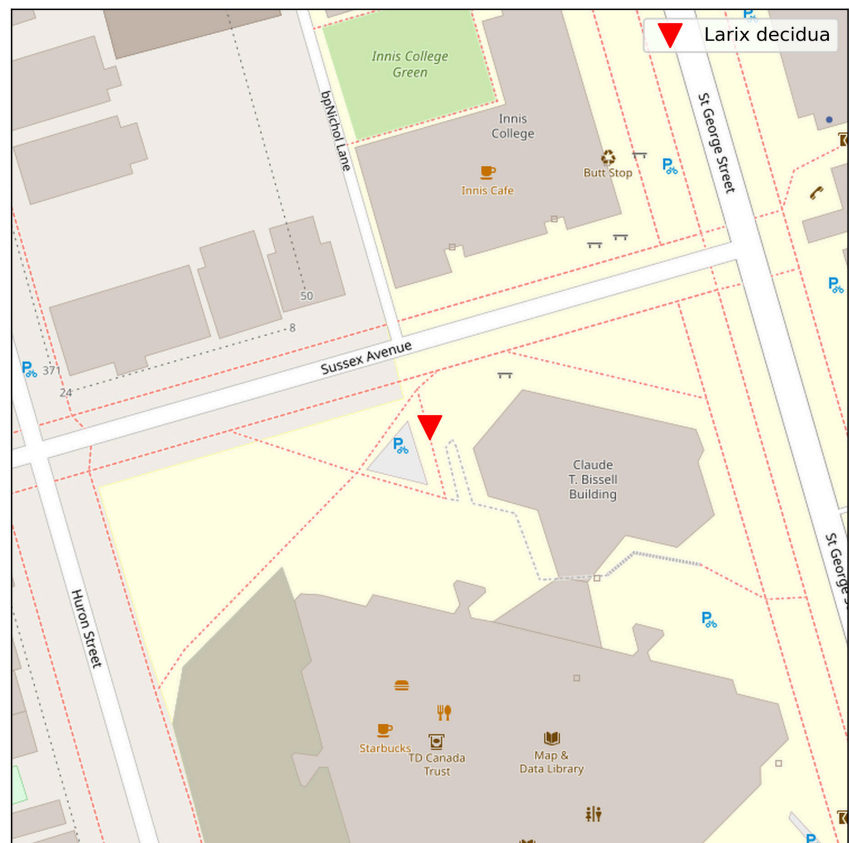
Pinaceae



NOTABLE FEATURES

The European larch is a deciduous conifer that sheds its needles in the fall. European larch cones are much longer (up to about 4 cm in length) than tamarack cones.

Where to find one:



Larix laricina (Du Roi) K. Koch
Tamarack

Pinaceae



NOTABLE FEATURES

The tamarack is a native deciduous conifer that sheds its needles in the fall. It is easily distinguished by its needles and small cone size (up to approximately 1 cm in length) which are smaller than European larch cones.

Where to find one:



Picea abies (L.) Karst.
Norway Spruce

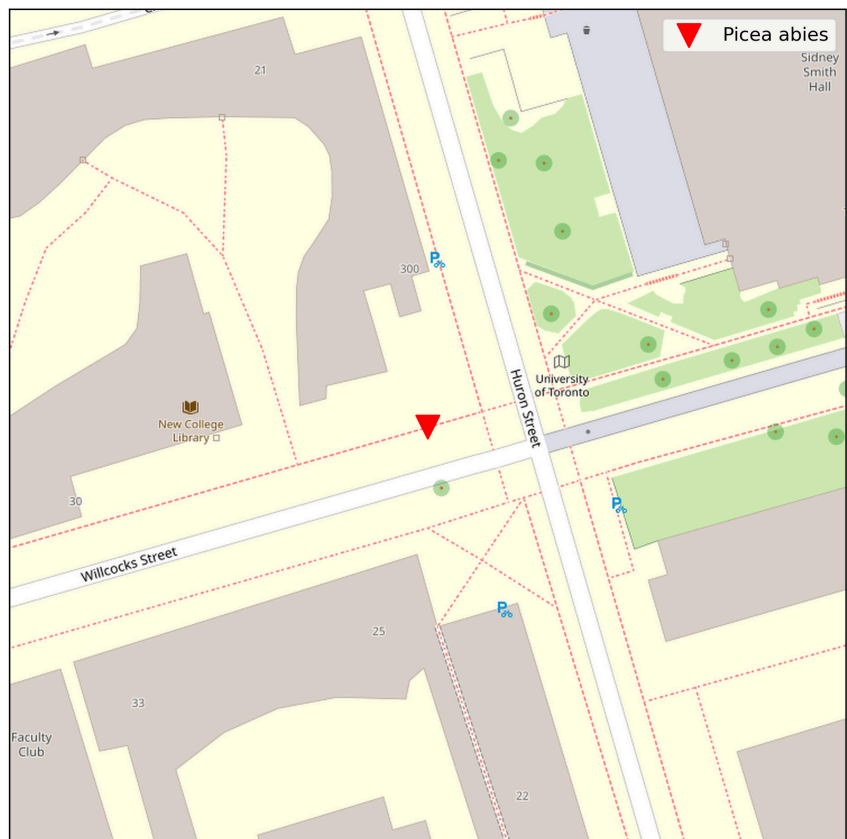
Pinaceae



NOTABLE FEATURES

Norway spruce often have drooping branches, as well as much larger cones than other spruce species.

Where to find one:



Picea glauca (Moench) Voss
White Spruce

Pinaceae



NOTABLE FEATURES

White spruce needles are arranged around the twig and are longer than the needles of black spruce. White spruce can be identified from black spruce by its needle length (white spruce needles grow up to approximately 22 cm in length while black spruce needles only reach approximately 16 cm) and the twigs (white spruce twigs are hairless while black spruce twigs are covered in small hairs).

Where to find one:



Picea pungens Engelm.
Colorado Spruce

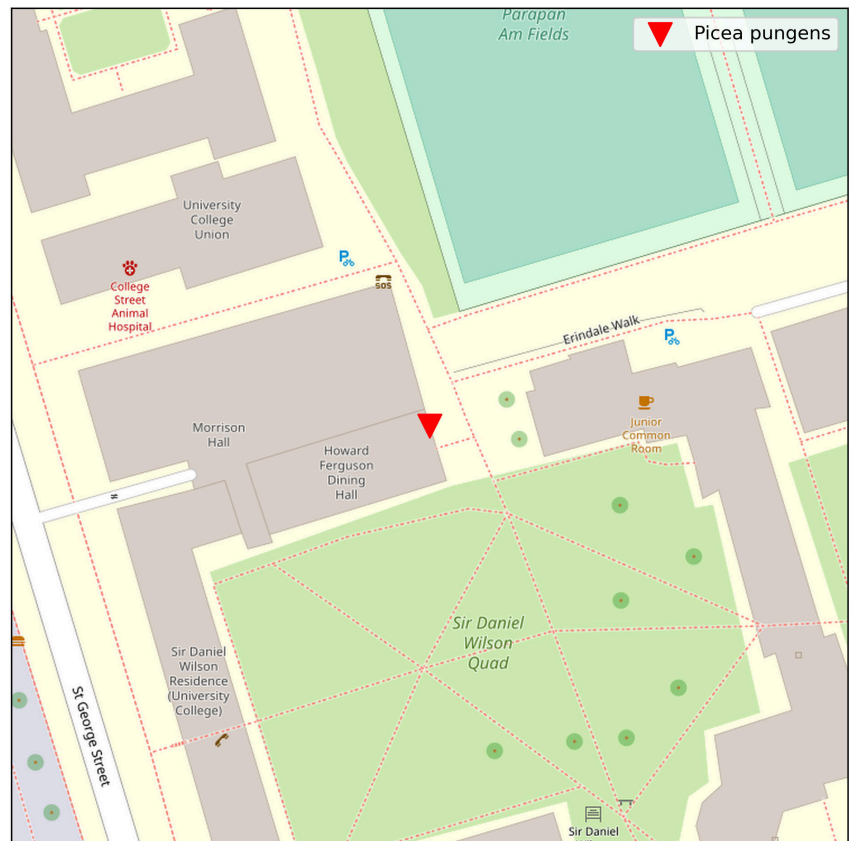
Pinaceae



NOTABLE FEATURES

Also known as blue spruce, the needles are often bluish in color and are very prickly to the touch.

Where to find one:



Pinus banksiana Lamb.
Jack Pine

Pinaceae



NOTABLE FEATURES

Jack pine is a common component of the boreal forest and an economically important tree species in Canada. Needles are bundled in twos but are much shorter than the other pines in this guide. Note that the image of the cone and needles was taken in Durham.

Where to find one:



Pinus nigra Arnold
Austrian Pine

Pinaceae



NOTABLE FEATURES

Austrian pine is a commonly planted landscape tree in the city. It can be identified by its needles, which are bundled in twos, but are longer than Scots pine, and do not snap in half as easily when bent like red pine needles do.

Where to find one:



Pinus resinosa Ait.
Red Pine

Pinaceae



NOTABLE FEATURES

Red pine needles are bundled in twos, are longer than Scots pine needles, and snap cleanly when bent, unlike Austrian pine needles. Generally red pines do not do well in the city

Where to find one:



Pinus strobus L.
Eastern White Pine

Pinaceae



NOTABLE FEATURES

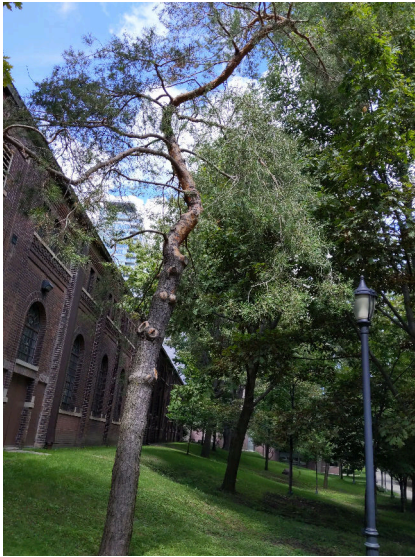
Needles are bundled in 5's and cones are curved. White pine is Ontario's provincial tree, and is a commonly found native tree in Canada. The bark is also distinctively thin, light gray, and often bleeds sap.

Where to find one:



Pinus sylvestris L.
Scots Pine

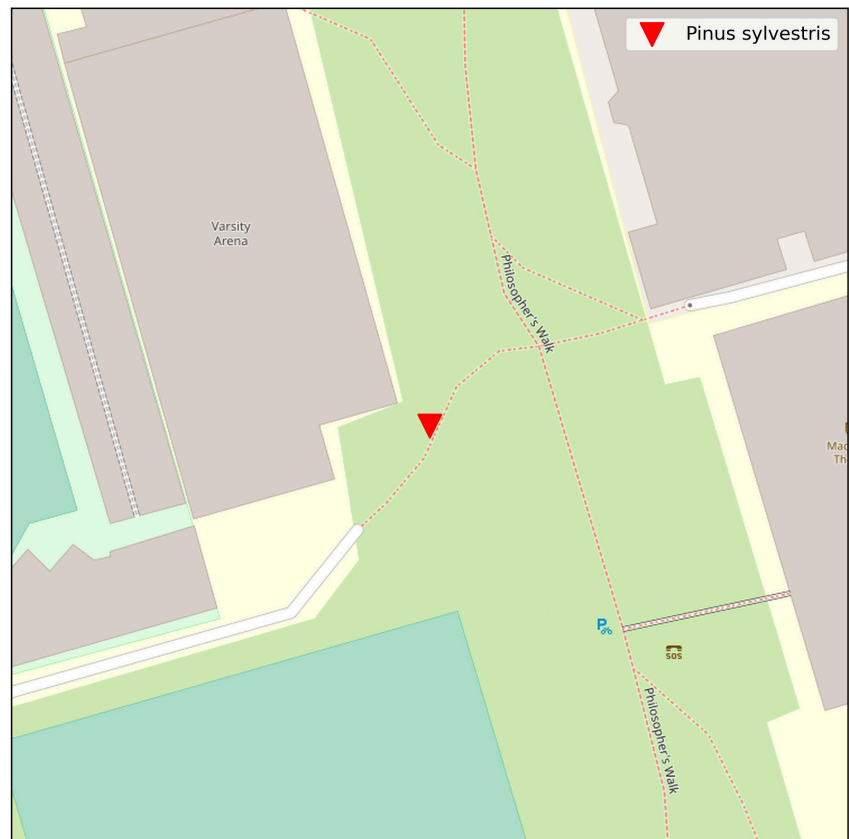
Pinaceae



NOTABLE FEATURES

Scots pine is an introduced species in Canada. Needles are bundled in 2's like red and Austrian pine, but are shorter and distinctively twisted. Sections of bark will often have an orange tinge.

Where to find one:



Pseudotsuga menziesii (Mirb) Franco
Douglas-Fir

Pinaceae



NOTABLE FEATURES

Douglas fir is an economically important timber species. It grows on the west coast and can be identified by its distinctive cones, which are covered in bracts.

Where to find one:



Tsuga canadensis (L.) Carrière
Eastern Hemlock

Pinaceae



NOTABLE FEATURES

The eastern hemlock has flat needles arranged in a single plane along the twigs. The branch arrangement is distinctive with many smaller branchlets splitting off from longer central branches. The cones are small and the bark is distinctive when trees are mature. The one pictured here is only a sapling, but these trees can get quite large.

Where to find one:



Taxus cuspidata Siebold & Zucc.
Japanese Yew

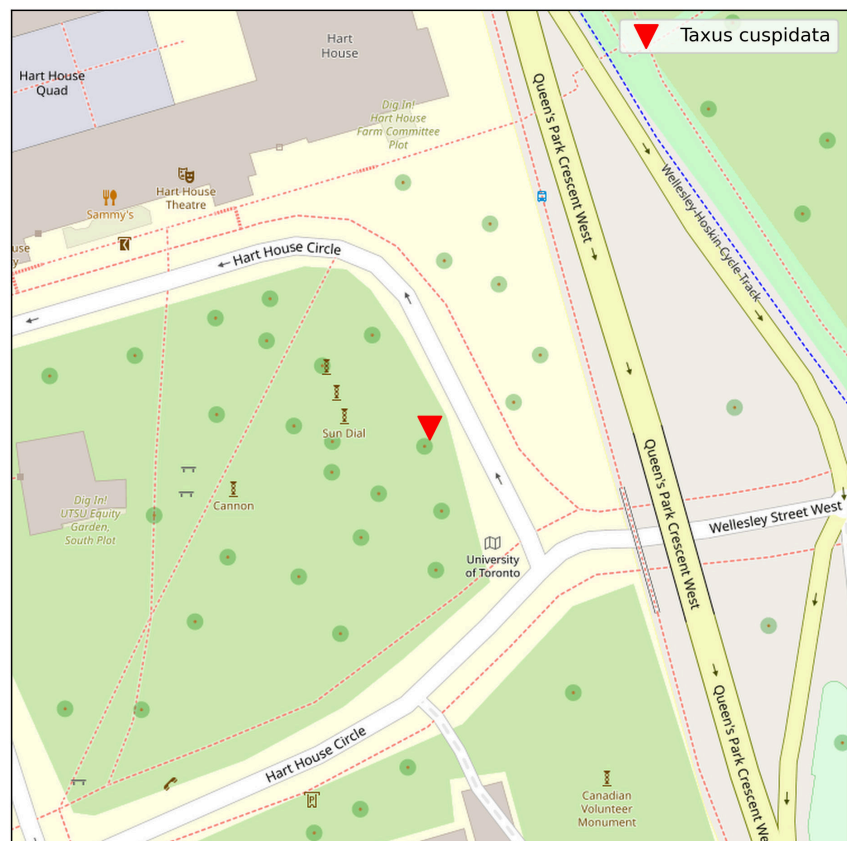
Taxaceae



NOTABLE FEATURES

Japanese yew can be identified by its needles, which are curved and have two green-yellow stripes on the underside.

Where to find one:



Ginkgo biloba L.
Ginkgo

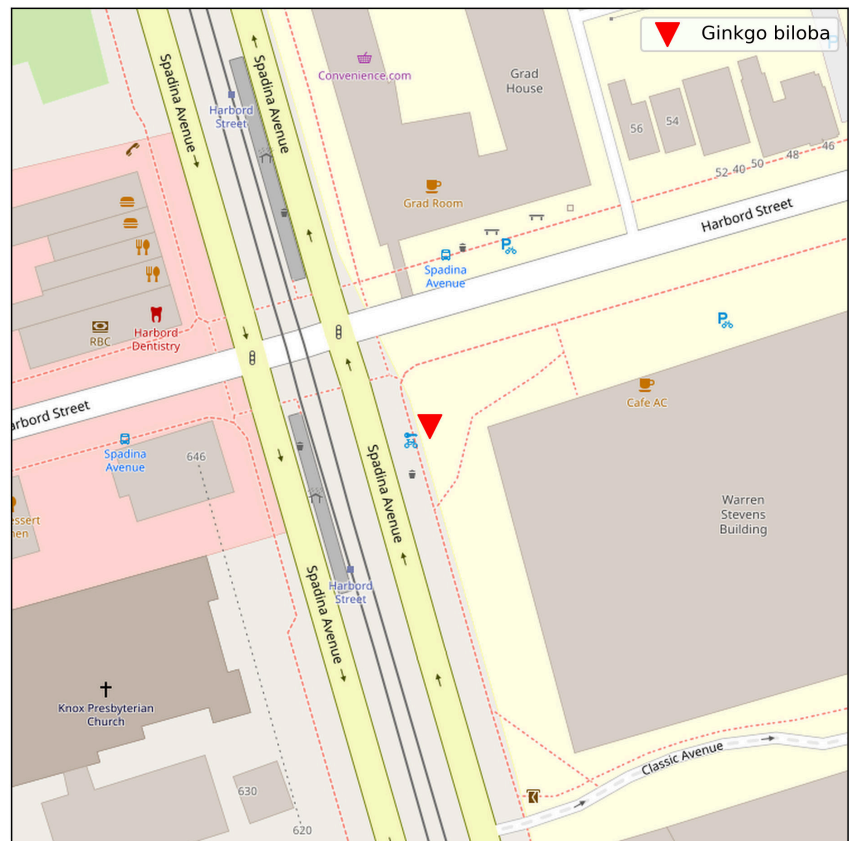
Ginkgoaceae



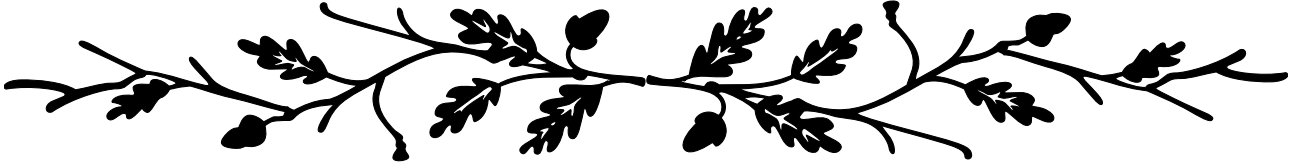
NOTABLE FEATURES

Ginkgo is extremely easy to identify by its fan-shaped leaves. Each leaf is attached to the branch via a distinctive short woody shoot, which is visible during the winter when the leaves have fallen. For somewhat obscure taxonomic reasons, ginkgo is actually considered to be a close relative of the conifers (and if you hold up a ginkgo leaf to the light, you will see parts of the leaf that look like needles fused together). Fruits on the female trees smell unpleasant when they fall. The Ginkgo species is one of the oldest tree species on the planet.

Where to find one:



BROADLEAF TREES



Acer ginnala Maxim.
Amur Maple

Aceraceae



NOTABLE FEATURES

The Amur maple is a small tree or shrub. Its leaves are comparatively small for a maple. Note the two shorter lobes near the base of the leaf and the teeth across the leaf margins.

Where to find one:



Acer griseum (Franch.) Pax
Paperbark Maple

Aceraceae



NOTABLE FEATURES

Paperbark maple has red bark that peels back like the bark of white birch trees. Leaves are compound, unlike most other maples (except for Manitoba maple).

Where to find one:



Acer negundo L.
Manitoba Maple

Aceraceae



NOTABLE FEATURES

The Manitoba maple has opposite leaves (like other maples), but unlike most maples, these leaves are compound instead of simple. Each leaf has up to nine leaflets. Leaves can come in a variety of related shapes, even on the same tree.

Where to find one:



Acer palmatum Thunb.
Japanese Maple

Aceraceae



NOTABLE FEATURES

Japanese maple is easily identified by its showy foliage and distinctive leaf shape. It is small and shrublike. They are a commonly cultivated species, so it is possible to find trees that come in different colours, shapes, and sizes.

Where to find one:



Acer pennsylvanicum L.
Striped Maple

Aceraceae



NOTABLE FEATURES

Striped maple is another small tree. Leaves are comparatively large and have 3 lobes. They are also finely toothed. The bark is usually green and covered with white stripes.

Where to find one:



Acer platanoides L.
Norway Maple

Aceraceae



NOTABLE FEATURES

Norway maple is commonly planted in the city. It can be distinguished from sugar maple by the white sap that is released from cut petioles (sugar maple does not release the sap) and by the bark texture (which develops ridges somewhat like an ash tree as the tree ages). The young 'crimson king' cultivar (pictured here) has crimson leaves and immature bark.

Where to find one:



Acer pseudoplatanus L.
Sycamore Maple

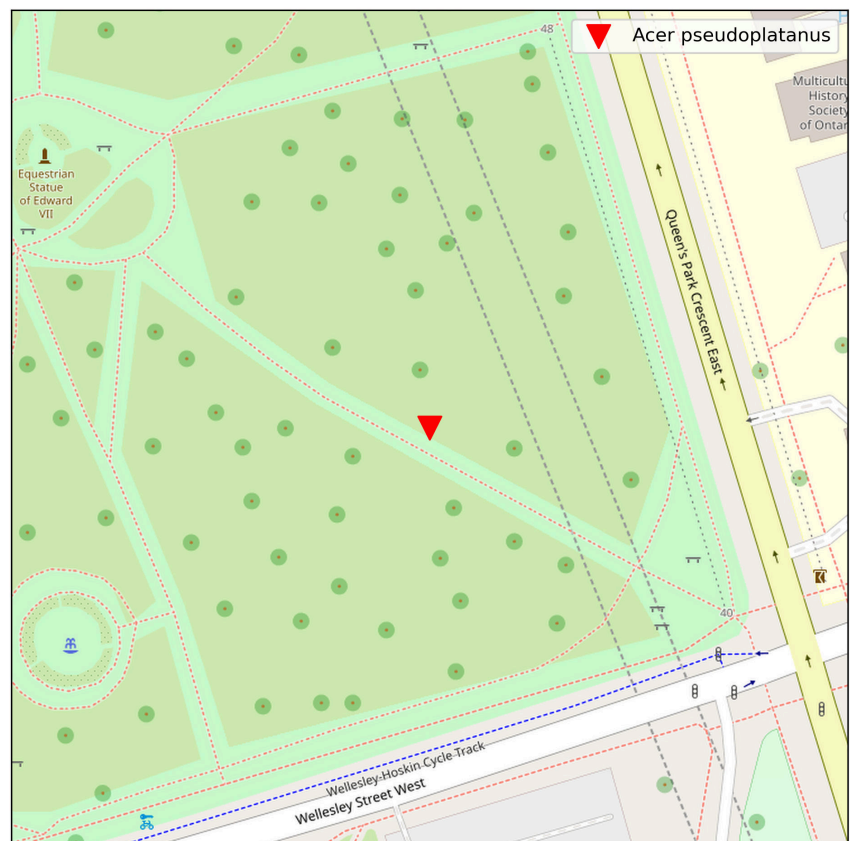
Aceraceae



NOTABLE FEATURES

Sycamore maple leaves have 5 lobes and are heavily toothed. The bark is pale and mottled, similar to trees in the sycamore genus (*Platanus*). Unlike true sycamores, the sycamore maple has winged seeds and an opposite branching habit.

Where to find one:



Acer saccharinum L.
Silver Maple

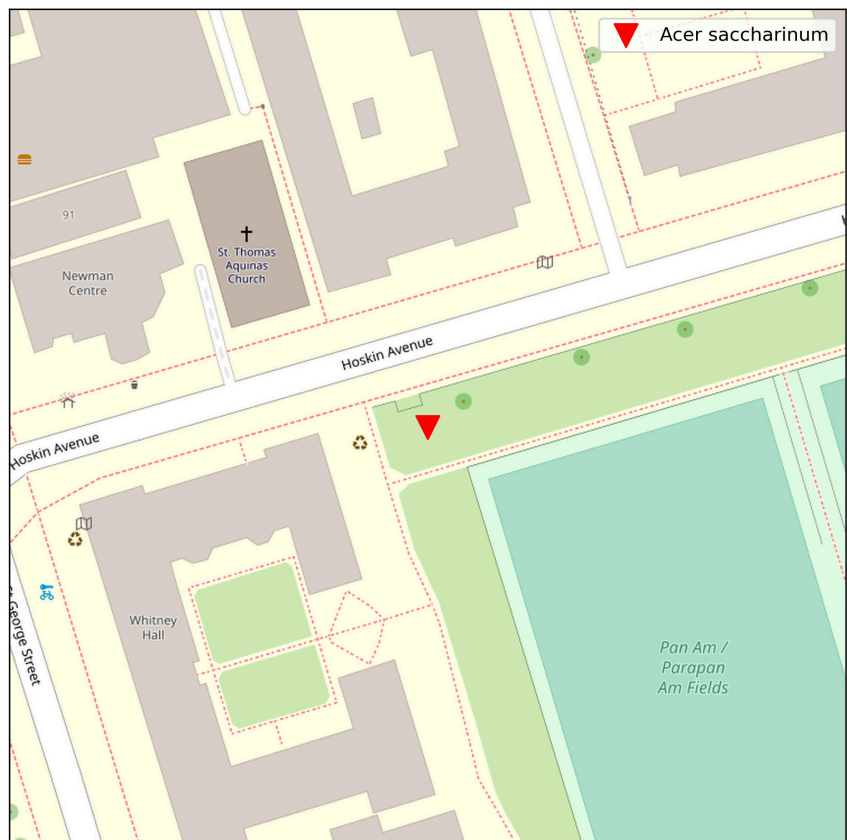
Aceraceae



NOTABLE FEATURES

Silver maples are fast growing and can often be found around the city. They are large, spreading trees that frequently have multiple stems. The bark is grey and smooth on young trees but gets roughing as the tree matures. The leaves on silver maple leaves are quite distinctive: their lobes are very deep and are silver colored on one side.

Where to find one:



Acer saccharum Marsh.
Sugar Maple

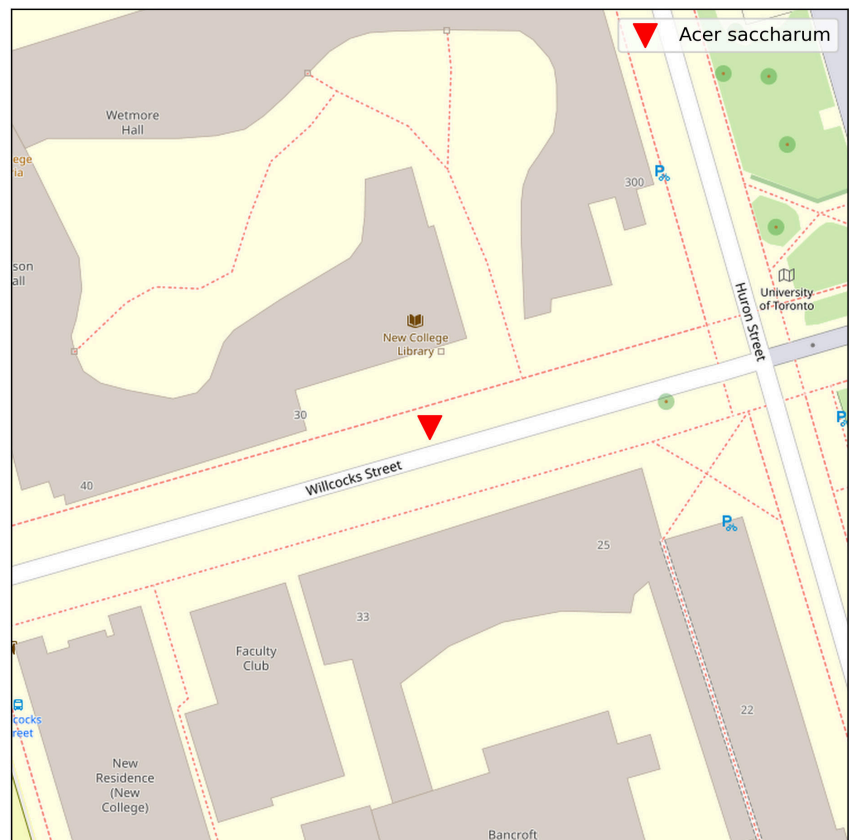
Aceraceae



NOTABLE FEATURES

Sugar maple looks like Norway maple, but with distinctly different bark that tends to be more plated with fewer narrow vertical ridges. The leaves on the sugar maple do not release a milky sap from the petiole. Unlike red maple, sugar maple leaves lack fine teeth.

Where to find one:



Acer spicatum Lamb.
Mountain Maple

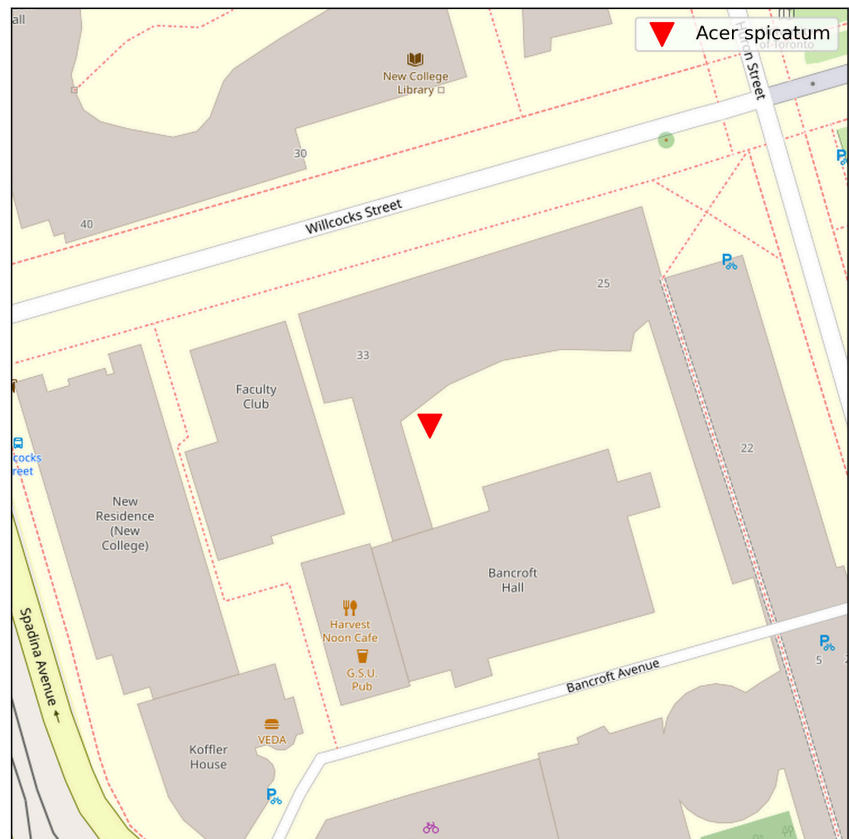
Aceraceae



NOTABLE FEATURES

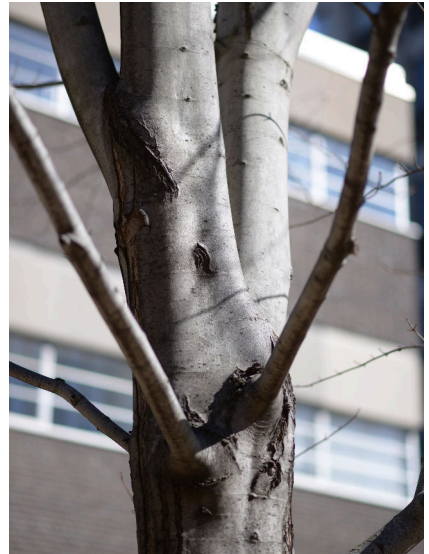
Mountain maple is a multi-stemmed shrub or a small tree. It can be distinguished from striped maple by its smaller leaf size and its fruits (mountain maple fruits have clear dent marks in the seedcase).

Where to find one:



Acer x freemanii A. E. Murray
Freeman Maple

Aceraceae



NOTABLE FEATURES

The Freeman maple is a hybrid of red and silver maple and can be difficult to distinguish from either, especially in the winter. Leaf lobes are shallower than in silver maple but deeper than red maple. The bark is relatively smooth and gray.

Where to find one:



Rhus typhina L.
Staghorn Sumac

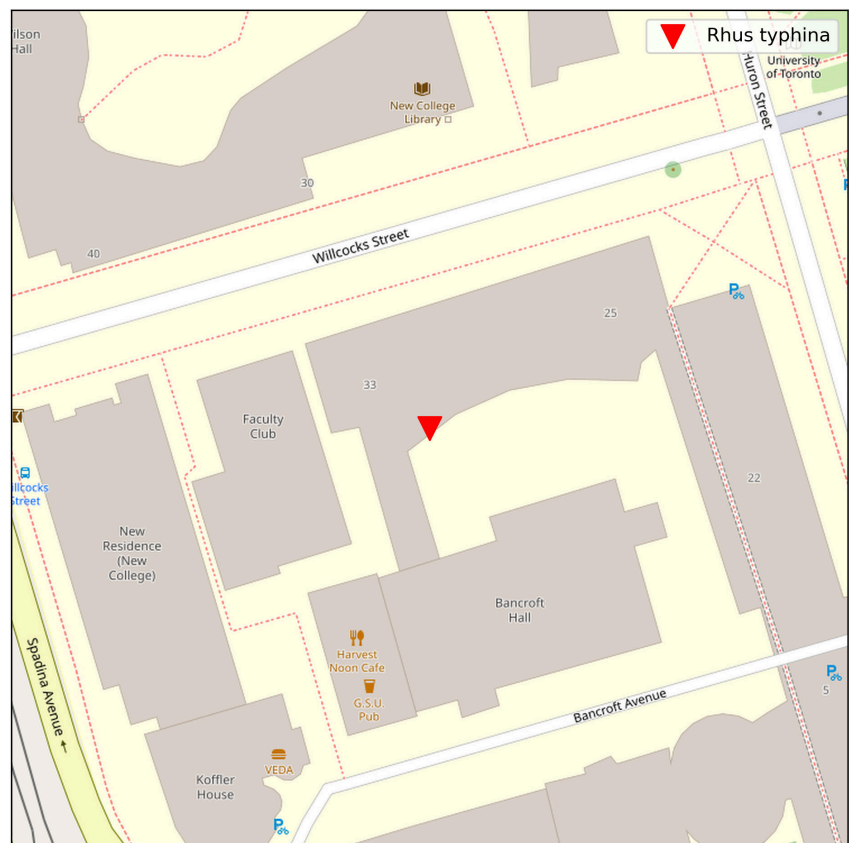
Anacardiaceae



NOTABLE FEATURES

Staghorn sumac has pinnately compound leaves with up to 31 leaflets on each leaf. Leaflets are toothed. Petioles and twigs have hairs and are quite soft to the touch. Fruits are red and grow in spike-shaped clusters. Not to be confused with poison sumac (poisonous!), which has 7-13 toothless leaflets per stalk and has hairless mature twigs. Staghorn sumac tends to grow in large clumps, reaching heights of 4-6 m.

Where to find one:



Aralia elata (Miq.) Seem.
Japanese Angelica-Tree

Araliaceae



NOTABLE FEATURES

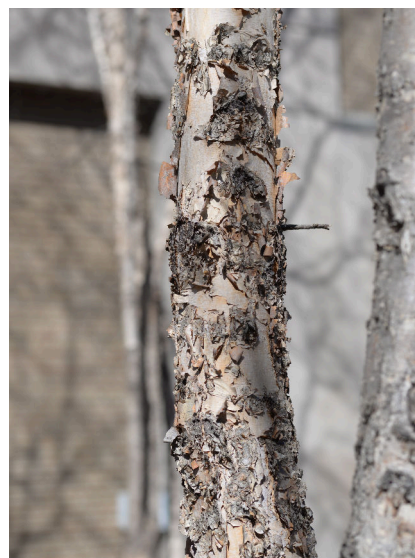
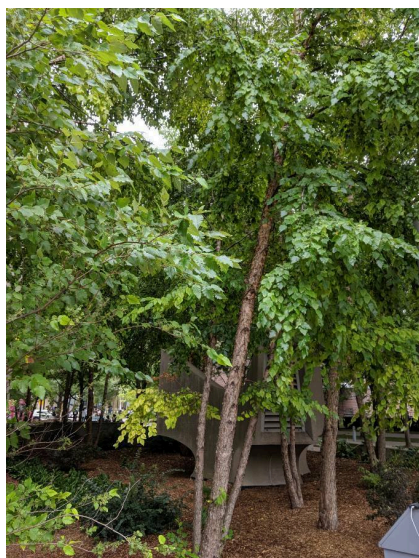
Japanese angelica tree has bipinnately compound leaves like Kentucky coffeetree. Angelica tree is smaller, has very different fruits, and twigs have prickles on them. The buds are also distinctive.

Where to find one:



Betula nigra L.
River Birch

Betulaceae



NOTABLE FEATURES

River birch is a common name for multiple birch species. *B. nigra* can be identified by its peeling, red-brown bark and triangular, toothed leaves.

Where to find one:



Betula papyrifera Marsh.
White Birch (Paper Birch)

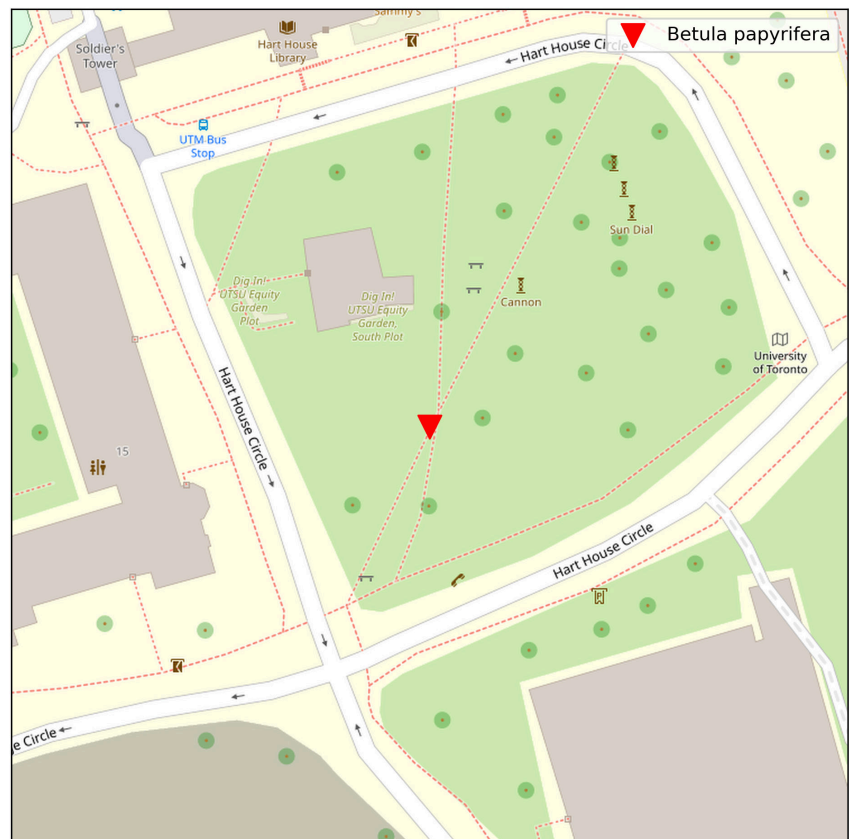
Betulaceae



NOTABLE FEATURES

The bark of white birch is very distinctive and peels off horizontally, but to a lesser extent than *Betula nigra*. Leaves are toothed and may be triangular or oval shaped.

Where to find one:



Betula populifolia Marsh.
Gray Birch

Betulaceae



NOTABLE FEATURES

Gray birch is a shrubby tree with stems often growing in clusters. Leaves are triangular and double toothed. The bark does not peel as readily as other birch species.

Where to find one:



Carpinus caroliniana Walt.
Blue-Beech

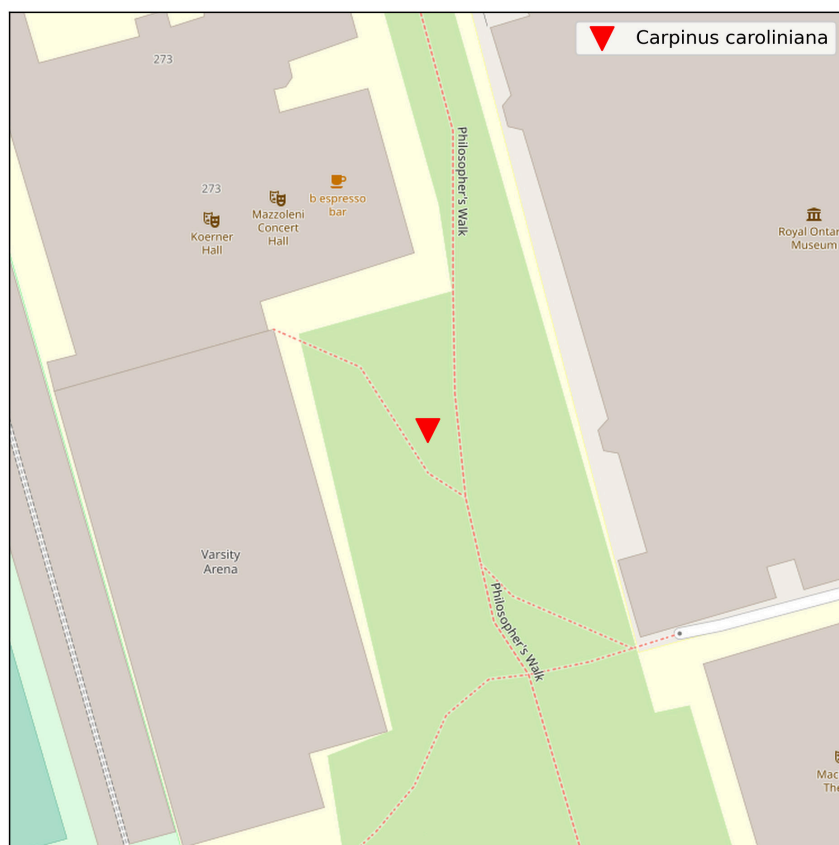
Betulaceae



NOTABLE FEATURES

Also known as musclewood and American hornbeam, the blue-beech is a small tree. Leaves are toothed, prominently veined, and alternately arranged. Fruits are small nuts. The bark is distinctive, similar to the much larger beech trees.

Where to find one:



Corylus colurna L.
Turkish Hazelnut

Betulaceae



NOTABLE FEATURES

Turkish hazelnut can be identified by its roundish leaf shape, distinctive bark and the spiky nuts. Also note the numerous large catkins on the tree in the winter. Note that the image of the fruits was taken off-campus.

Where to find one:



Ostrya virginiana (Mill.) K. Koch
Ironwood

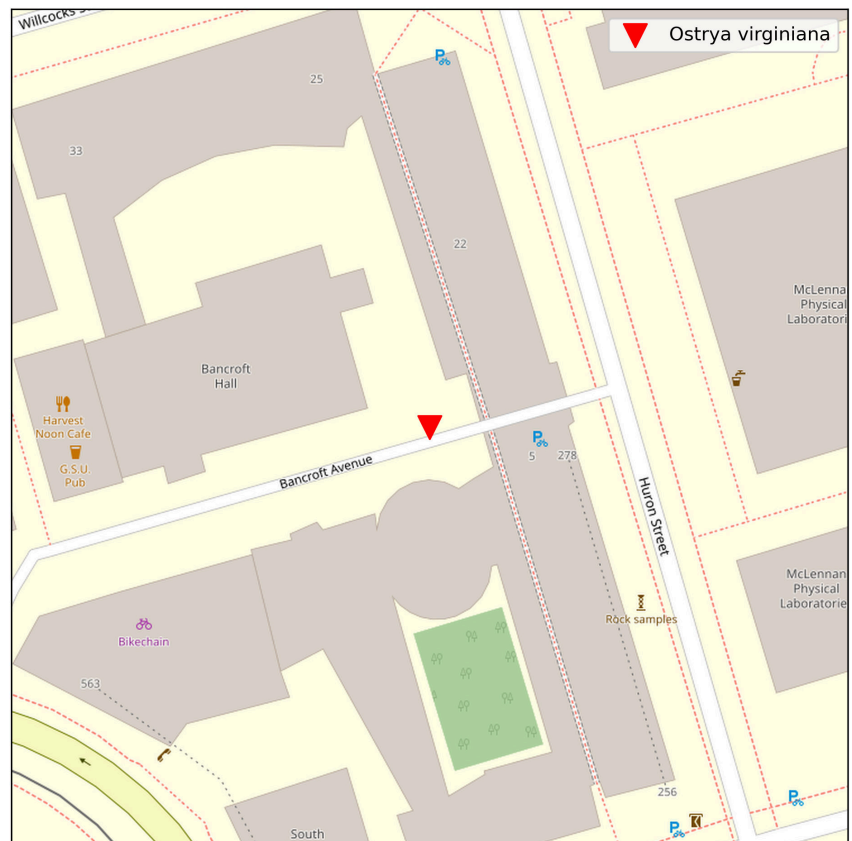
Betulaceae



NOTABLE FEATURES

Ironwood also goes by the common name hop-hornbeam, referring to the fruit's resemblance to hops. The bark of ironwood is also distinctive with peeling strips of gray-brown bark. It is a popular choice for shady areas and grows slowly.

Where to find one:



Catalpa speciosa Warder
Northern Catalpa

Bignoniaceae



NOTABLE FEATURES

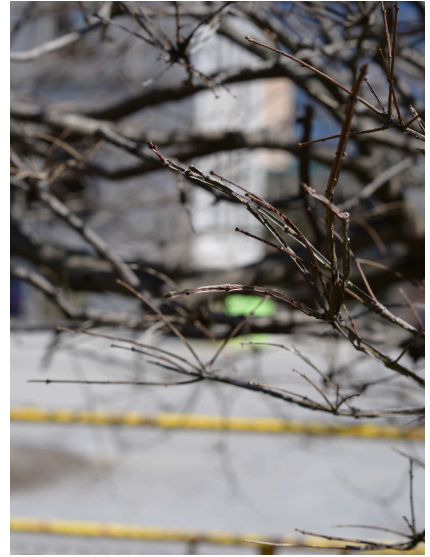
The northern catalpa is easy to identify from its massive, heart shaped leaves and long bean-like fruits.

Where to find one:



Euonymus alatus (Thunb.) Siebold
Winged Euonymus

Celastraceae



NOTABLE FEATURES

Winged euonymus, also known as burning bush, is a small tree or shrub. Leaves are toothed and mostly oppositely arranged. Twigs are squarish and have corklike protrusions on each side (see image).

Where to find one:



Cercidiphyllum japonicum Siebold & Zucc.
Katsura Tree

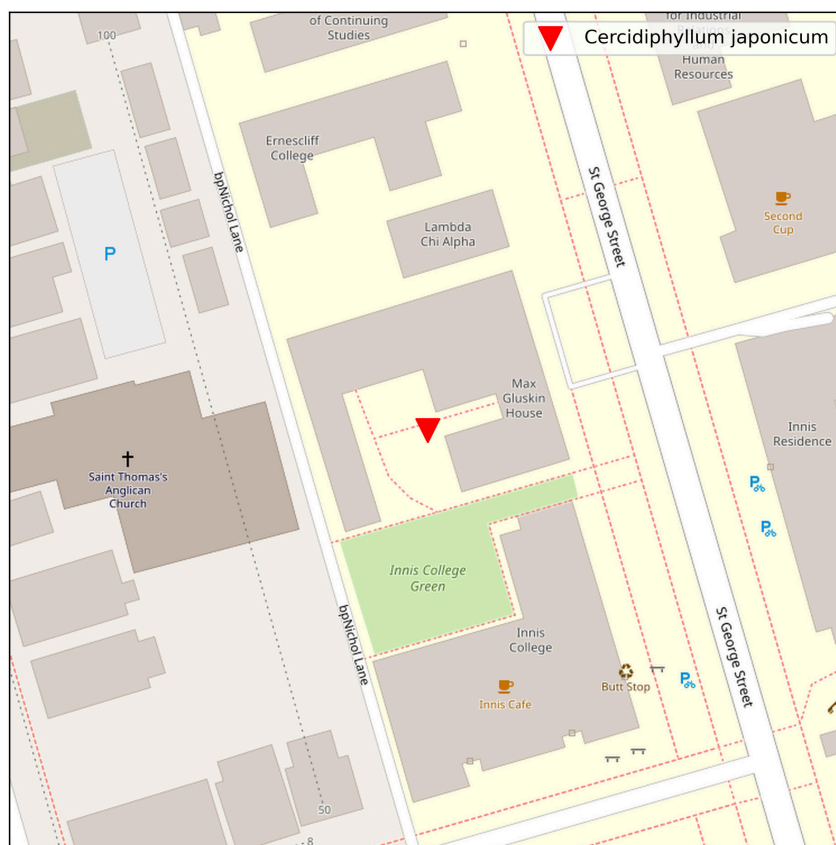
Cercidiphyllaceae



NOTABLE FEATURES

The katsura tree can be recognized by its round-oval leaves and clusters of greenish pods. The species is dioecious, meaning that there are both male and female trees. Flowers are found on the females, while pollen is released from stamens on the males. In the winter, the male tree retains the petals grown around the stamens while the female drops them

Where to find one:



Cornus alternifolia L. f.
Alternate-Leaf Dogwood

Cornaceae



NOTABLE FEATURES

Leaves are simple, toothless, and veins run parallel to leaf edge. Alternate leaf dogwood can be identified from other dogwoods by its alternate leaves (most dogwoods have opposite leaves), although some of the leaves look like they are opposite.

Where to find one:



Cornus kousa Hance
Kousa Dogwood

Cornaceae



NOTABLE FEATURES

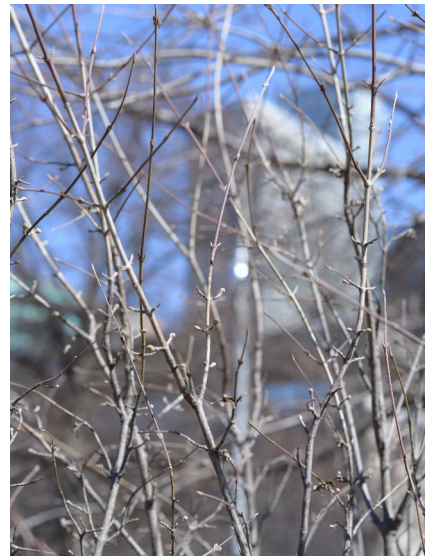
Kousa dogwood, like most dogwoods, has opposite leaves with entire margins and veins that curve towards the leaf tip. The fruit is particularly distinctive.

Where to find one:



Cornus mas L.
Cornelian-Cherry

Cornaceae



NOTABLE FEATURES

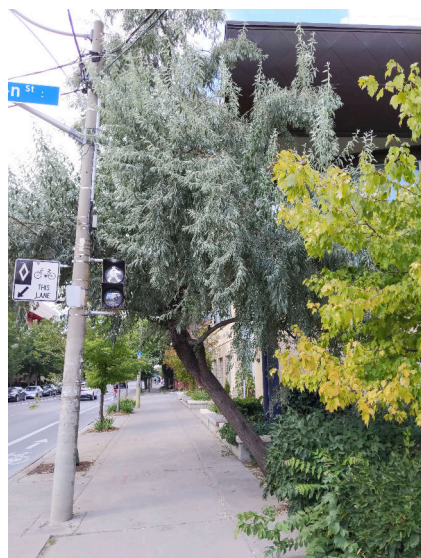
Along with the other common identifying features in dogwoods (opposite branching and leaf venation), Cornelian-cherry has distinctive fruits and yellowish buds.

Where to find one:



Elaeagnus angustifolia L.
Russian Olive

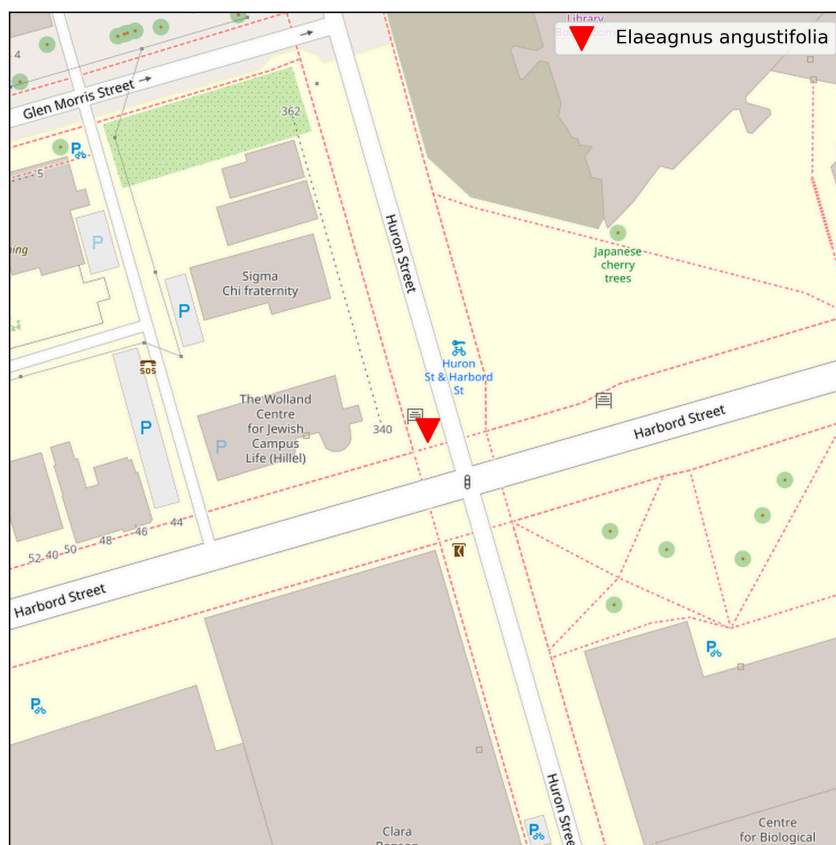
Elaeagnaceae



NOTABLE FEATURES

Russian olive looks a little bit like some species of willow, but with a blue-ish tinge in the leaves. Fruits resemble olives, but are paler. Leaf undersides are a pale silver colour. Bark peels in vertical strips.

Where to find one:



Cercis canadensis L.
Redbud

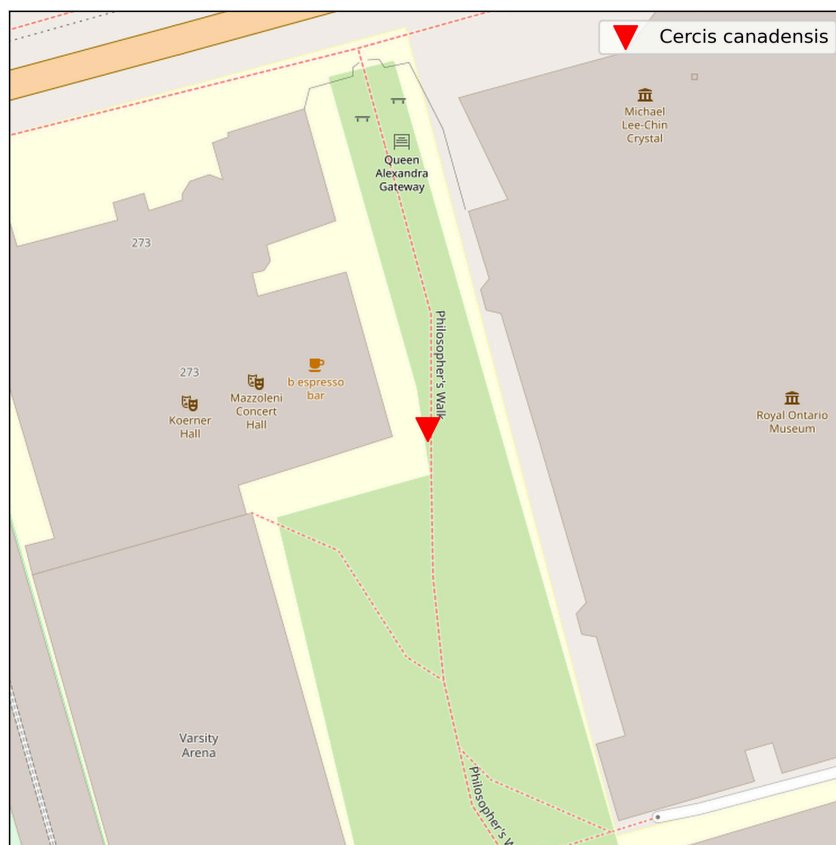
Caesalpinaceae



NOTABLE FEATURES

Redbud is a small tree with showy pink flowers which appear before the leaves in the spring. Leaves are heart-shaped and toothless. Fruits are pea pod-like and red. There is also a cultivar of the tree with white instead of red flowers.

Where to find one:



Gleditsia triacanthos L.
Honey Locust

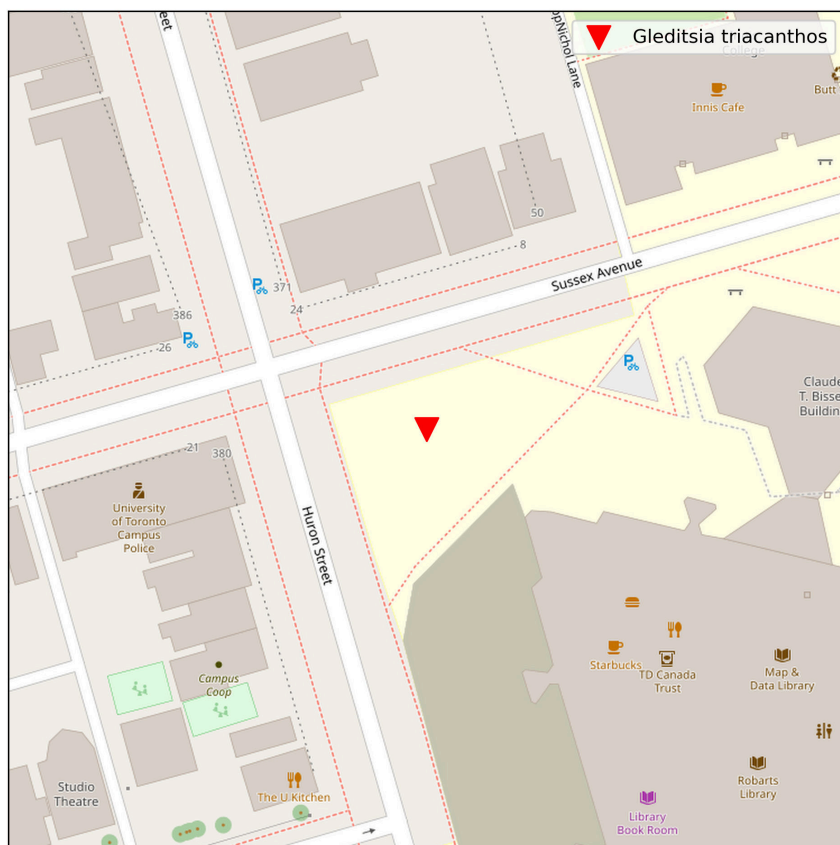
Caesalpinaceae



NOTABLE FEATURES

The honey locust is a common street tree in the city. It is easily recognized by its pinnately compound (sometimes bipinnately compound) leaves and its bark. The variety in the city is a thornless cultivar, the 'wild type' trees are covered in thorns. The bark tends to be pleated, similar to that of sugar maple.

Where to find one:



Gymnocladus dioica (L.) K. Koch
Kentucky Coffeetree

Caesalpinaceae



NOTABLE FEATURES

The Kentucky coffeetree can be easily identified by its massive, bipinnately compound leaves, and distinctive pod-shaped fruits, found on female trees. In the winter, the tree has a skeletal appearance, with few, bare, and spaced out branches.

Where to find one:



Cladrastis lutea (Michx.) K. Koch
Yellow-Wood

Fabaceae



NOTABLE FEATURES

C. lutea is also known as *C. kentukea*. It can be identified by its pinnately compound leaves with alternate leaflets. It gets its name from its yellow heartwood.

Where to find one:



Robinia pseudoacacia L.
Black Locust

Fabaceae



NOTABLE FEATURES

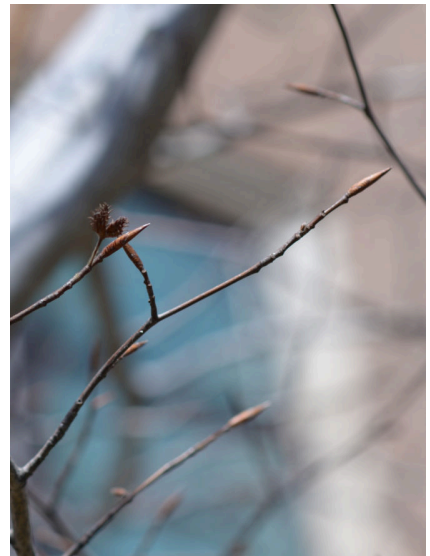
Black locust looks somewhat like thornless honey locust, but with larger leaves and discrete but painful spines. Leaves are pinnately compound with up to 19 leaflets per leaf, including a leaflet at the tip. Paired spines may be found near the buds. Fruit looks like pea pods. The bark can have very pronounced ridges.

Where to find one:



Fagus grandifolia Ehrh.
American Beech

Fagaceae



NOTABLE FEATURES

American beech leaves are tough, alternately arranged and may remain on the tree during the winter. Veins are straight and parallel and end in a distinctive tooth. Bark is grey and smooth. Beech buds are distinctively slender, reddish brown, and come to a fine point.

Where to find one:



Fagus sylvatica L.
European Beech

Fagaceae



NOTABLE FEATURES

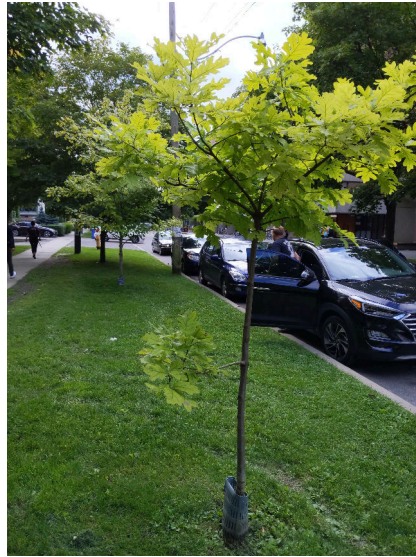
European beech bark looks very similar to the bark of its American counterpart. Leaves are either toothless or have very small teeth (American beech leaves are clearly toothed).

Where to find one:



Quercus alba L.
White Oak

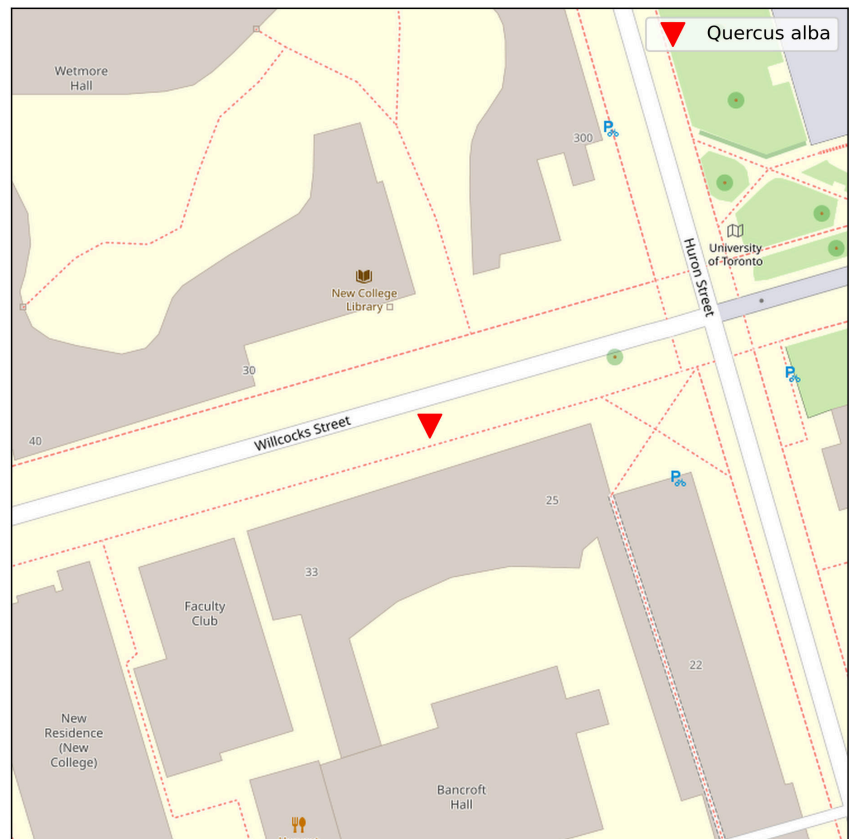
Fagaceae



NOTABLE FEATURES

White oak leaves have rounded lobes and can come in a variety of shapes and sizes. Acorns are up to about 2 cm in length.

Where to find one:



Quercus bicolor Willd.
Swamp White Oak

Fagaceae



NOTABLE FEATURES

Swamp white oak leaves have shallow, rounded lobes. Leaves get wider towards the tip. Acorns grow up to 3 cm in length, but are very scaly when immature (pictured here).

Where to find one:



Quercus macrocarpa Michx.
Bur Oak

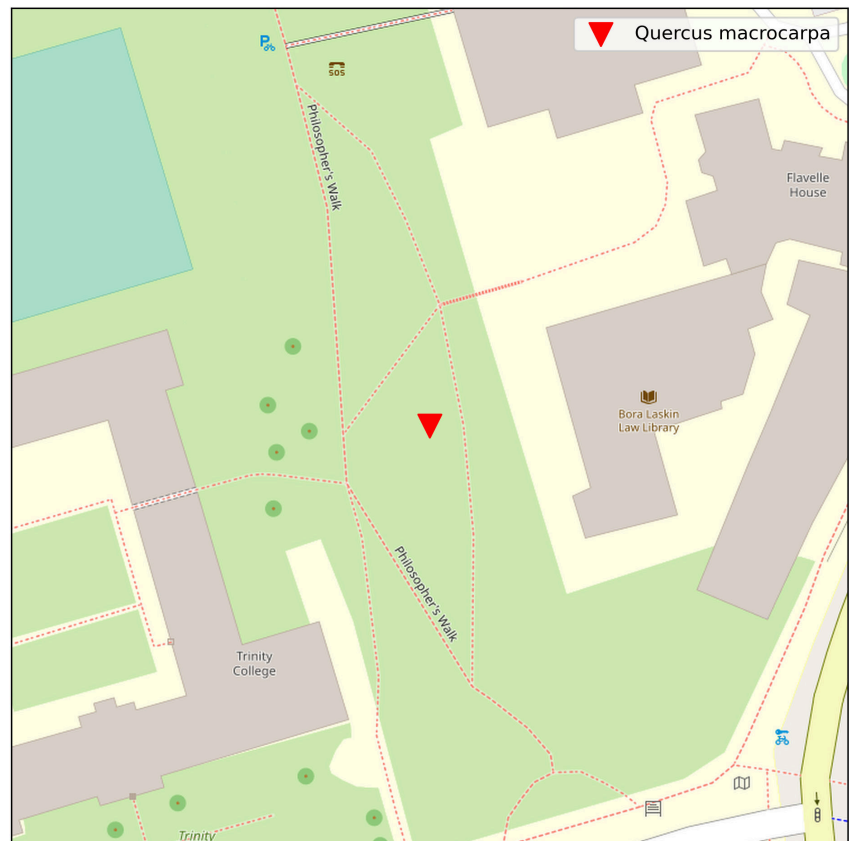
Fagaceae



NOTABLE FEATURES

Bur oak leaves often have 2 very deep lobes near the base. Acorns are rounder than those of white oak. Most of the acorn is covered by the cup.

Where to find one:



Quercus palustris Muenchh.
Pin Oak

Fagaceae



NOTABLE FEATURES

Pin oak leaves have pointy tips like red oak, but the lobes are much deeper, and the leaves are smaller overall.

Where to find one:



Quercus robur L.
English Oak

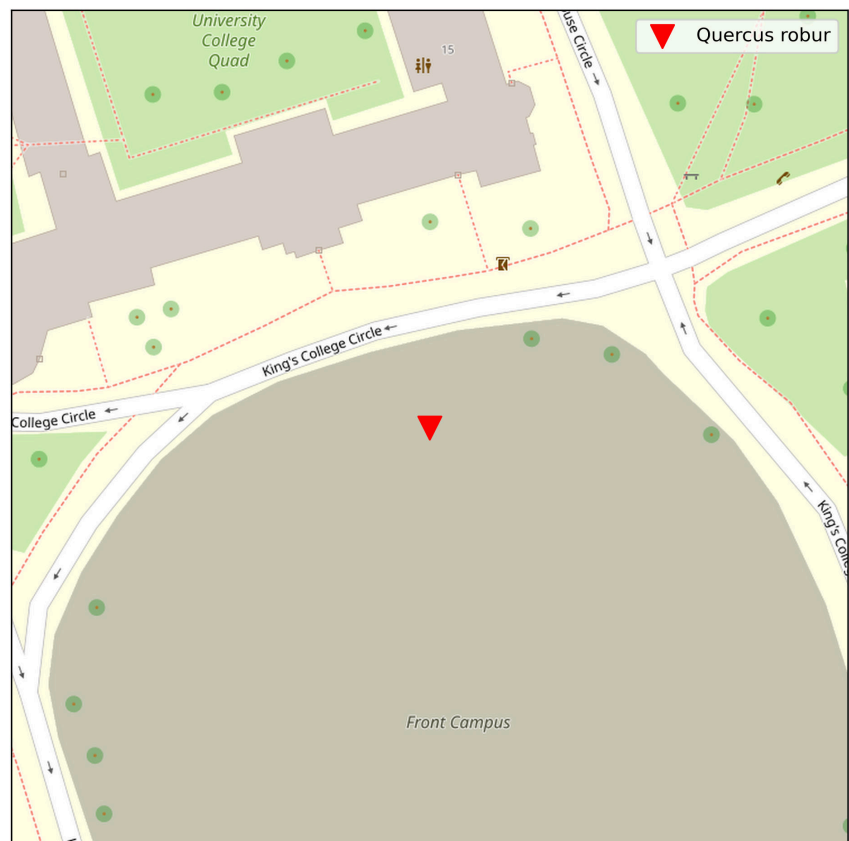
Fagaceae



NOTABLE FEATURES

English oak leaves resemble those of white oak (rounded and lobed), but are smaller. English oak acorns can be twice the length of white oak acorns. Keep an eye out for the distinctive lobes near the bottom of the leaf. A columnar, 'fastigate' cultivar of English oak is also commonly planted

Where to find one:



Quercus rubra L.
Red Oak

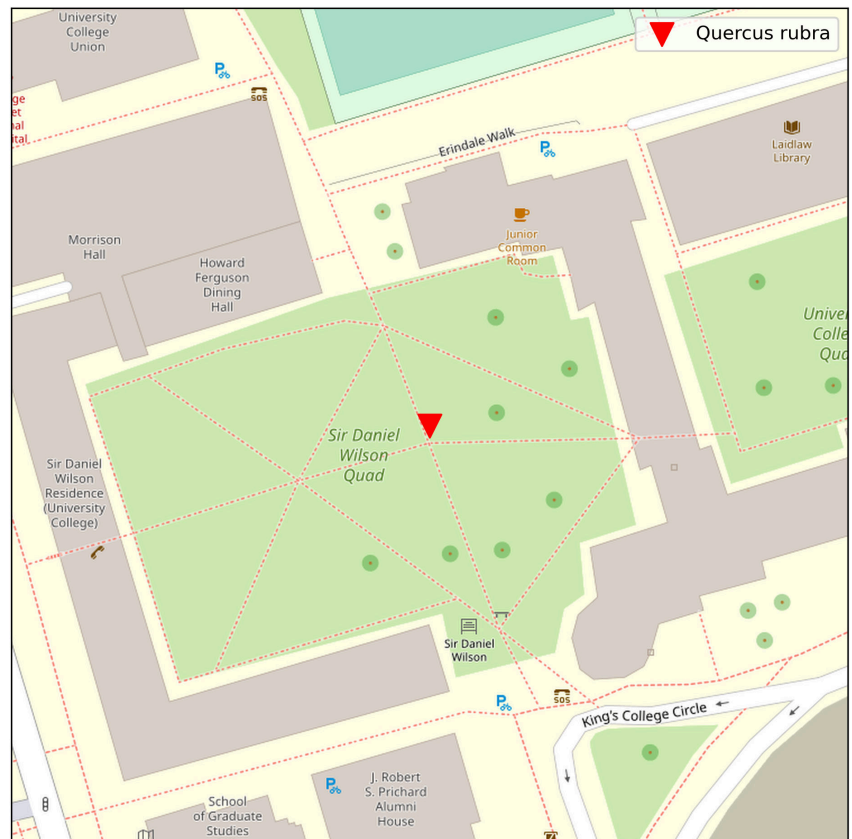
Fagaceae



NOTABLE FEATURES

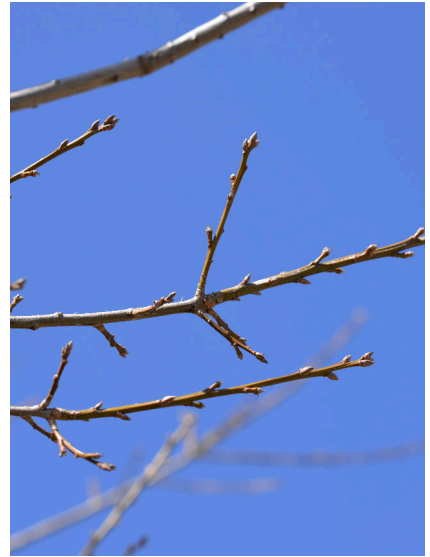
Red oak leaves are lobed and lobes end in pointy teeth. It is a common tree in the city.

Where to find one:



Quercus velutina Lam.
Black Oak

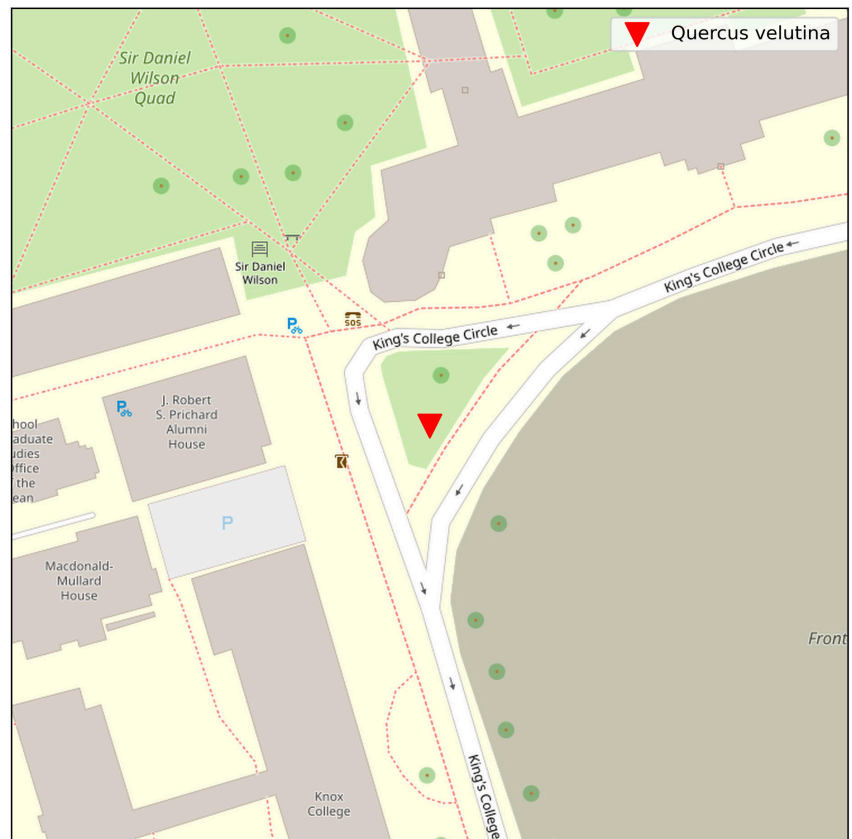
Fagaceae



NOTABLE FEATURES

Black oak leaves look similar to red oak leaves, but have fewer lobes (up to 7 for black, up to 9 for red). Red oak leaf lobes will often have uniform depth, which is not the case for black oak and black oak acorns are slightly smaller. Bark on mature black oak trees forms broken ridges, while red oak bark ridges tend to be longer.

Where to find one:



Hamamelis virginiana L.
Witch-Hazel

Hamamelidaceae



NOTABLE FEATURES

The witch-hazel is a small tree or shrub. Stems usually grow in clusters. Leaf veins are straight. Fruits are small yellowish-green capsules.

Where to find one:



Liquidambar styraciflua L.
Sweetgum

Hamamelidaceae



NOTABLE FEATURES

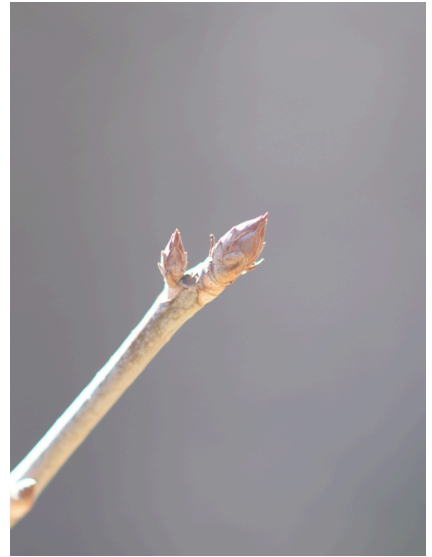
Sweetgum is most easily identified by its leaf shape and fruits which may be green or grayish and remain on the tree even during the winter.

Where to find one:



Aesculus glabra Willd.
Ohio Buckeye

Hippocastanaceae



NOTABLE FEATURES

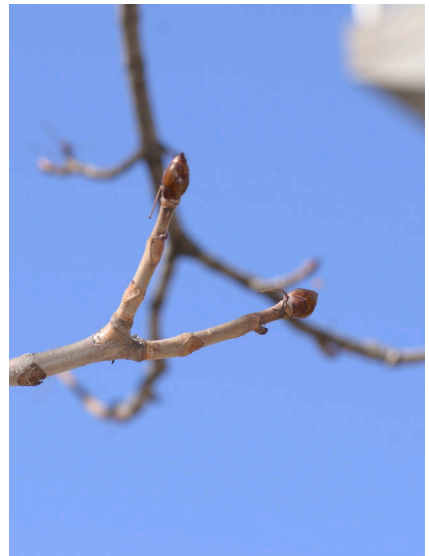
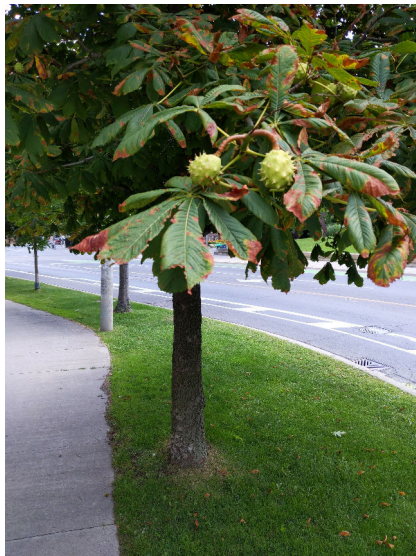
The Ohio buckeye has palmately compound leaves (like the common horsechestnut), but with 5-7 leaflets instead of 5-9. Leaflets are toothed. Terminal buds are large, but not sticky like common horsechestnut. Fruits have short spines all over them.

Where to find one:



Aesculus hippocastanum L.
Common Horsechestnut

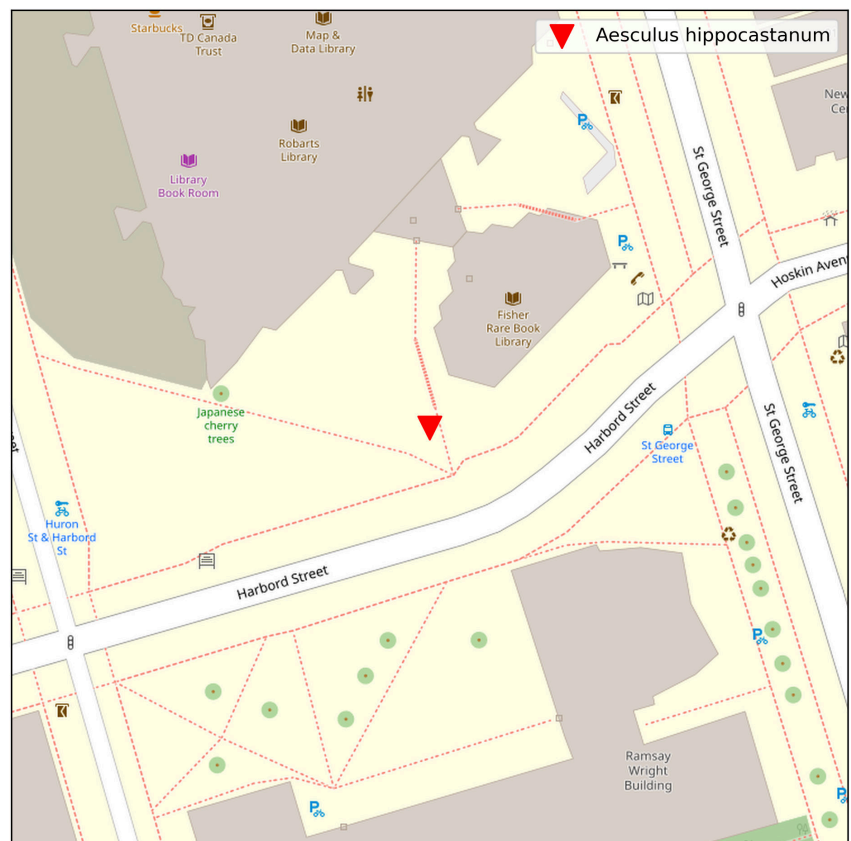
Hippocastanaceae



NOTABLE FEATURES

Common horsechestnut is quite common in the city. Leaves are palmately compound (leaflets are arranged in a hand-shape). Fruits are large and spiky. Terminal buds are sticky to the touch.

Where to find one:



Carya ovata (Mill.) K. Koch
Shagbark Hickory

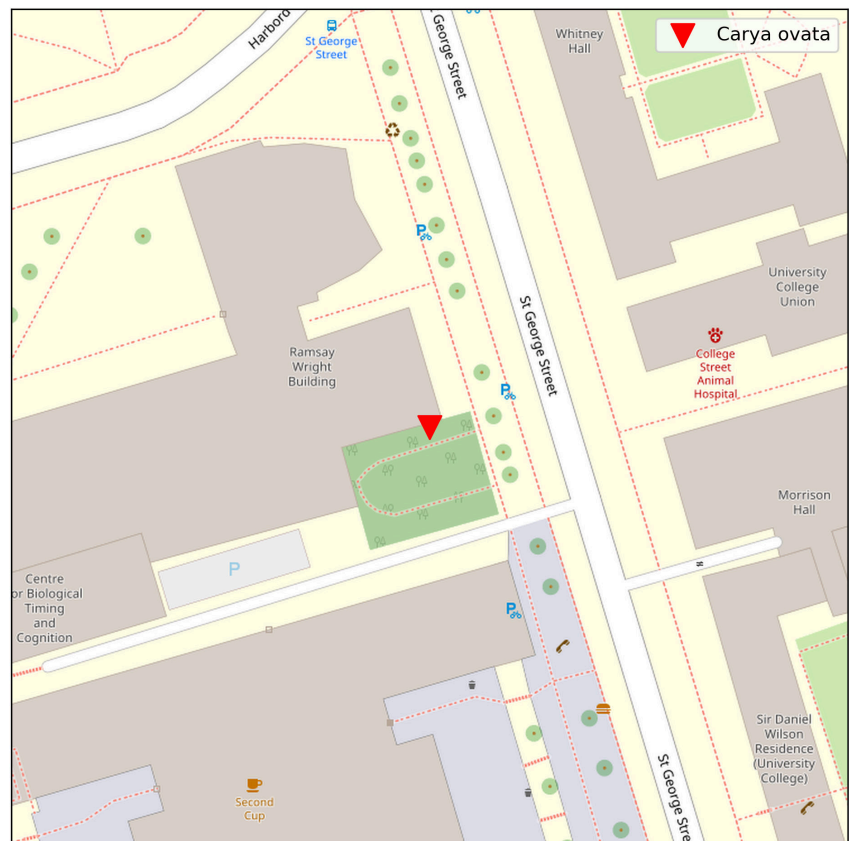
Juglandaceae



NOTABLE FEATURES

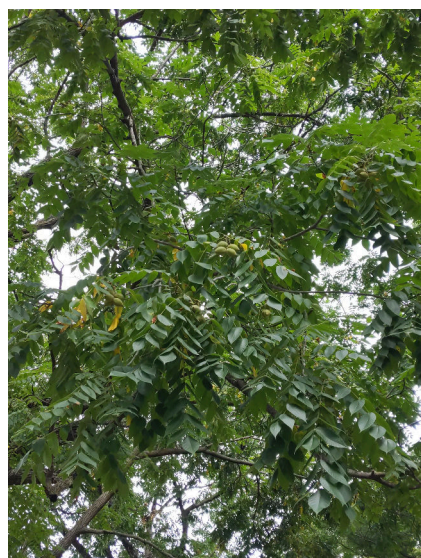
Shagbark hickory leaves are alternate, pinnately compound, and usually have 5 leaflets per petiole. The terminal leaflet can be noticeably larger than the others. The bark has a 'shaggy' look and often peels in vertical strips. Fruits are ball-shaped with vertical indents in them.

Where to find one:



Juglans cinerea L.
Butternut

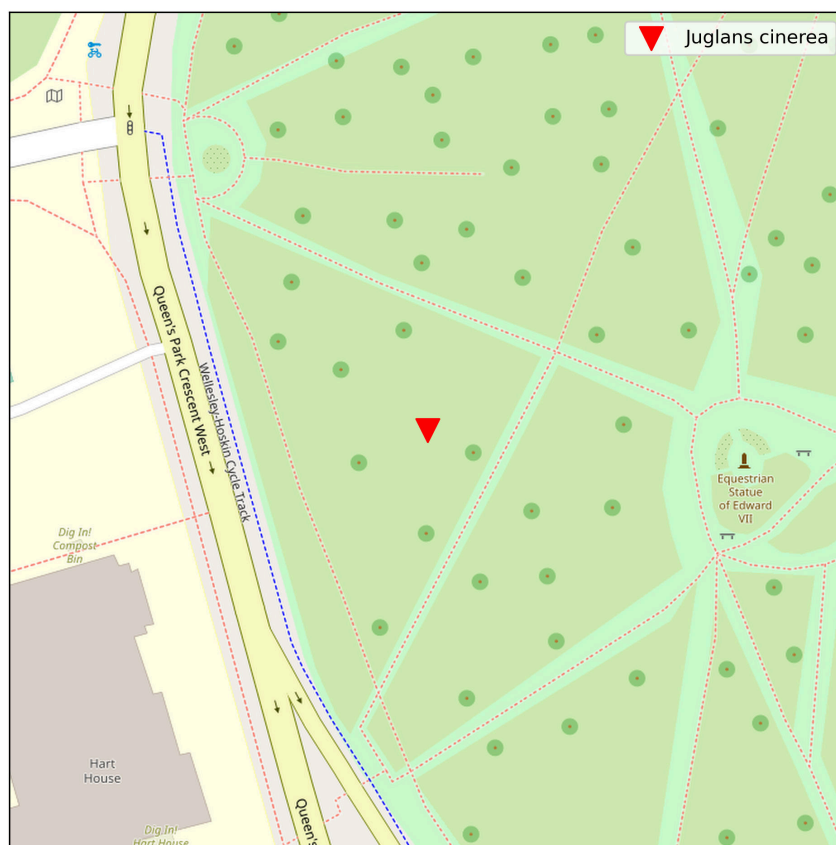
Juglandaceae



NOTABLE FEATURES

Also known as white walnut, butternut looks similar to black walnut, but the terminal leaflet is the same size as the surrounding ones, unlike in black walnut where the terminal leaflet is smaller or absent. Butternut fruits are elongated, unlike those of black walnut which are round. Butternut is endangered and the canker pictured here is a common disease in the remaining trees in Ontario.

Where to find one:



Juglans nigra L.
Black Walnut

Juglandaceae



NOTABLE FEATURES

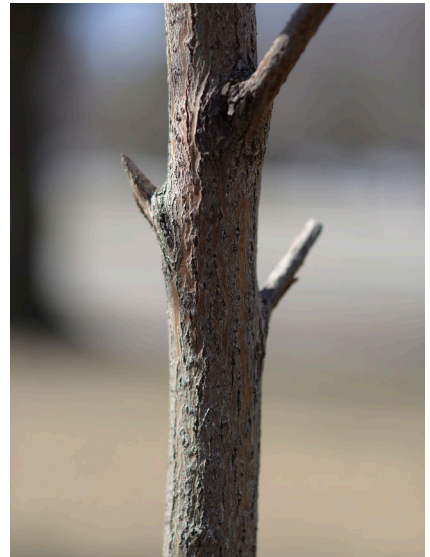
The black walnut has pinnately compound leaves. Fruits are green, grow in clusters of up to 3, are a little smaller than a tennis ball, and have a distinctive and pleasant smell. *Juglans* bud scars are large and contain 3 clearly visible vascular bundles.

Where to find one:



Sassafras albidum (Nutt.) Nees
Sassafras

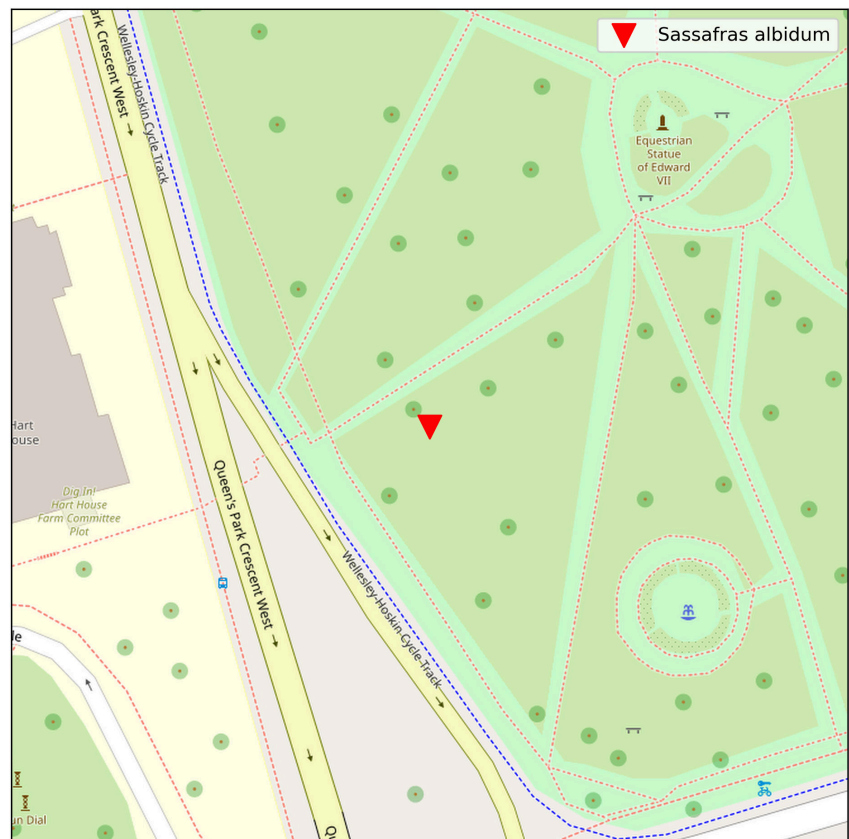
Lauraceae



NOTABLE FEATURES

Sassafras leaves may be lobed or unlobed and have a distinctive smell of species. Sassafras is uncommon in Ontario.

Where to find one:



Liriodendron tulipifera L.
Tulip Tree

Magnoliaceae



NOTABLE FEATURES

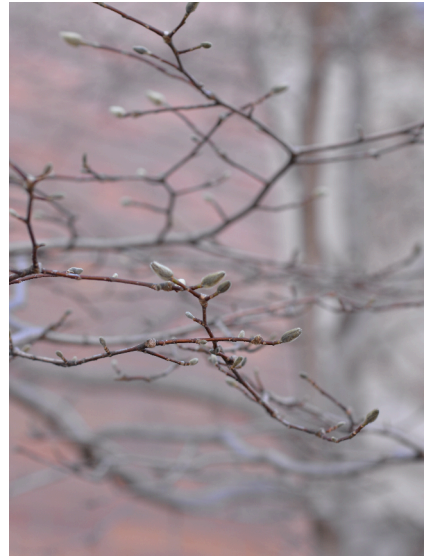
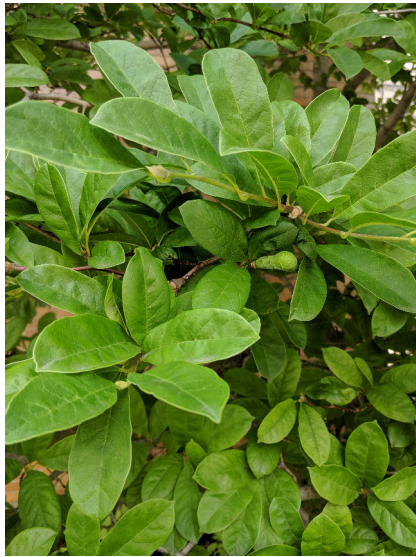
The easiest way to identify a tulip tree is the highly distinctive four lobed leaves. In bloom, they have beautiful tulip-like flowers.

Where to find one:



Magnolia acuminata L.
Cucumber-Tree

Magnoliaceae



NOTABLE FEATURES

Cucumber tree looks similar to other magnolias (with fuzzy buds). Fruits are distinctive and turn red when mature.

Where to find one:



Magnolia stellata (Siebold & Zucc.) Maxim.
Star Magnolia

Magnoliaceae



NOTABLE FEATURES

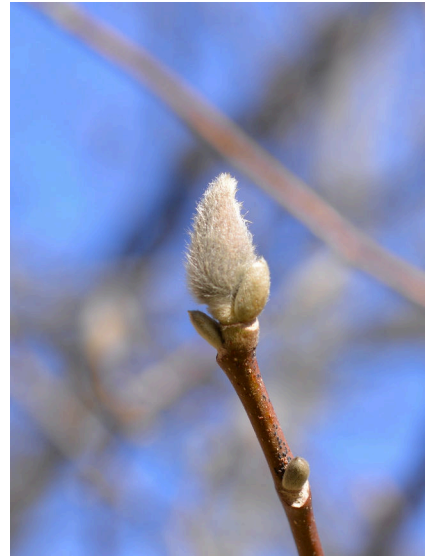
The fruits of star magnolias are distinctive aggregated orange seeds encapuslated in a bright pink coating. Leaves are smaller than saucer magnolia. This tree gets its name from the star shaped blossoms.

Where to find one:



Magnolia x soulangeana Soul.-Boud.
Saucer Magnolia

Magnoliaceae



NOTABLE FEATURES

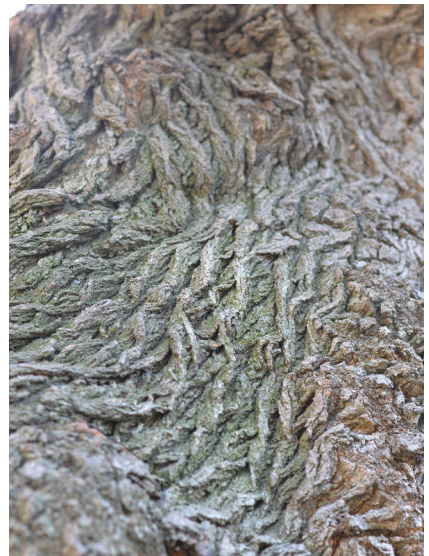
The saucer magnolia looks much like other magnolias, but with larger leaves. Flowers are large and can be pink to whiteish in color. Buds are quite sizable and are fuzzy to the touch.

Where to find one:



Morus alba L.
White Mulberry

Moraceae



NOTABLE FEATURES

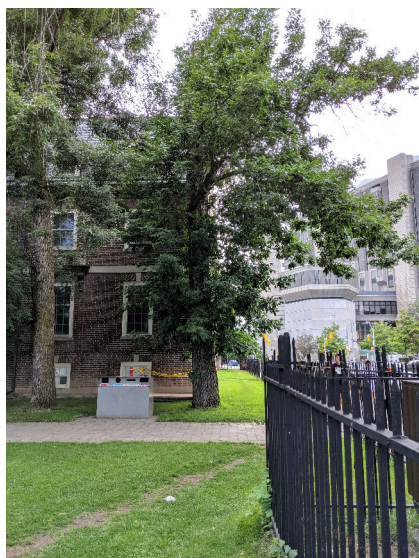
White mulberry often grows in disturbed areas. Leaves may have irregular lobes or may be unlobed (pictured here). Fruits look a bit like blackberries, but can be white, red, or black. Due to their weed-like growth in marginal areas, they frequently have contorted or twisting branches.

Where to find one:



Fraxinus americana L.
White Ash

Oleaceae



NOTABLE FEATURES

Ashes can be tricky to tell apart. White ash has compound leaves, and leaflets either lack teeth towards the tips or have rounded teeth. Leaflets are borne on very short stalks. Twigs are hairless. Leaf scars are "C" shaped, unlike green ash, which has "D" shaped leaf scars. White ash tend to have a broader, pyramidal growth habit.

Where to find one:



Fraxinus excelsior L.
European Ash

Oleaceae



NOTABLE FEATURES

European ash leaves are pinnately compound and may have up to 15 leaflets per petiole. Leaflets are toothed, attached directly to the central stalk (no petiolules are present). Buds are black in color and covered in hairs.

Where to find one:



Fraxinus pennsylvanica Marsh.
Green Ash

Oleaceae



NOTABLE FEATURES

Green ash leaves are pinnately compound and have teeth that reach above the middle of the leaflet. Twigs may or may not be covered in hairs. Very common in the city.

Where to find one:



Syringa reticulata (Blume) H.Hara
Japanese Tree Lilac

Oleaceae



NOTABLE FEATURES

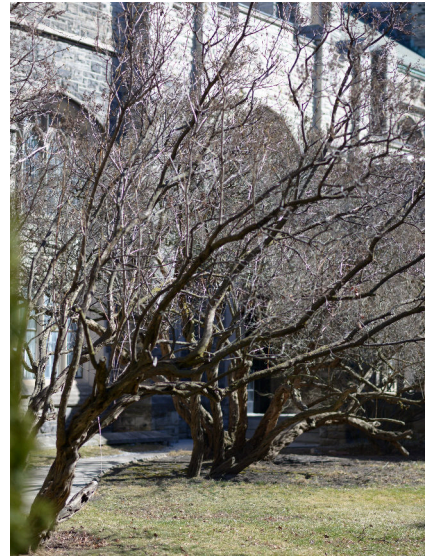
As the name implies, Japanese tree lilac looks like a tree-shaped lilac. Flowers are white and bloom later than most other lilacs.

Where to find one:



Syringa vulgaris L.
Common Lilac

Oleaceae



NOTABLE FEATURES

Common lilac is a shrublike tree. Stems grow in clusters. Leaves are toothless, and are roughly heart-shaped with a pointy tip. Flowers grow in elongated clusters, are aromatic, and may be white or pinkish. Remnants of their inflorescence can help identify lilacs when not in bloom. Branches have an opposite, or near opposite growth habit.

Where to find one:



Platanus x acerifolia (Ait.) Willd.
London Plane-Tree

Platanaceae



NOTABLE FEATURES

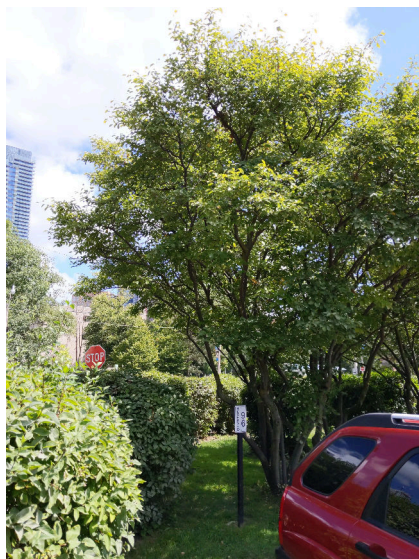
The London plane is a common city tree. It can be identified by the camouflauge-like patterns caused by peeling bark, its maple-like foliage, and paired fruits (American sycamore, which looks similar, has fruits that grow singly on stalks).

Where to find one:



Amelanchier arborea (Michx. f.) Fern.
Downy Serviceberry

Rosaceae



NOTABLE FEATURES

A. arborea is also known by the latin name *A. canadensis* and the common name 'serviceberry'. Trees are small, multi-stemmed, and shrubby. Leaves are toothed and oval. They produce a dark-red to purple fruit that resembles a blueberry.

Where to find one:



Amelanchier laevis Wieg.
Smooth Serviceberry

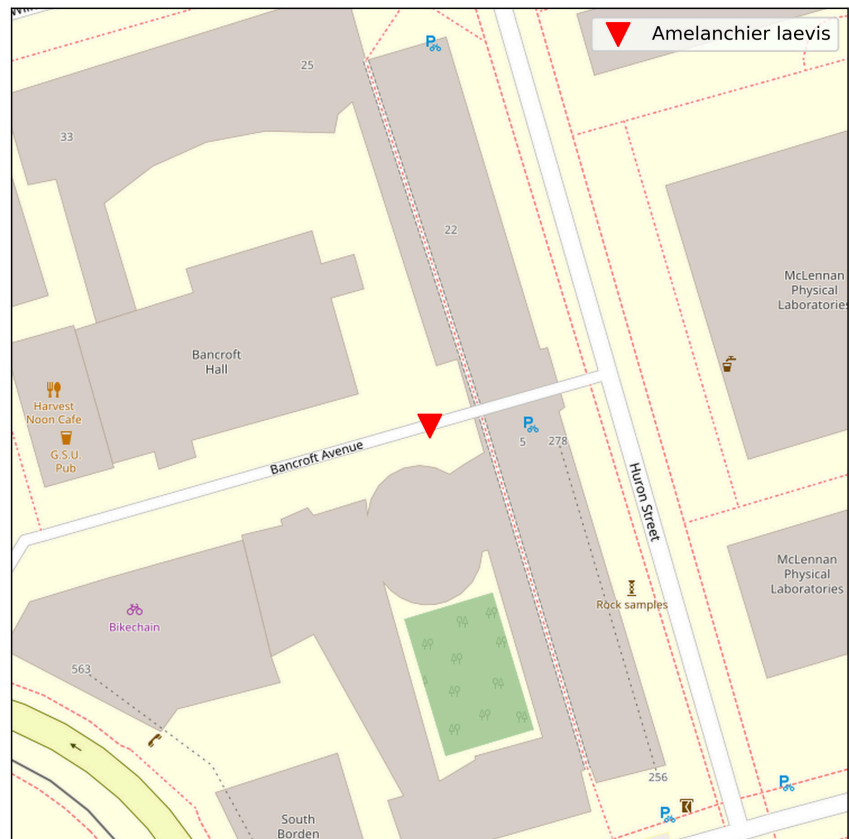
Rosaceae



NOTABLE FEATURES

Smooth serviceberry is a small tree or large shrub. Leaves are a coppery-purple color in springtime. They are toothed, simple, and hairless. Berries look like large blueberries.

Where to find one:



Malus baccata (L.) Borkh.
Siberian Crab Apple

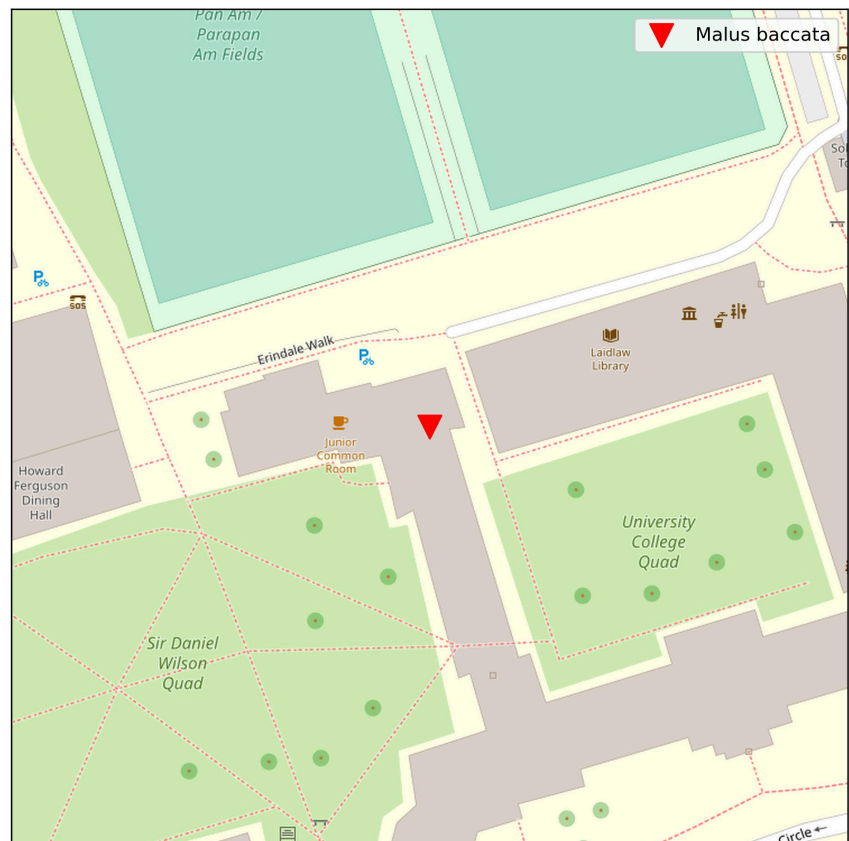
Rosaceae



NOTABLE FEATURES

Fruits are very small for an apple. Leaves are toothed with parallel veins and a pointed tip.

Where to find one:



Prunus serrulata Lindl.
Japanese Flowering Cherry

Rosaceae



NOTABLE FEATURES

Japanese flowering cherry can be recognized by its stunning flowers. Look out for the cherry blossoms in the spring.

Where to find one:



Prunus virginiana L.
Choke Cherry

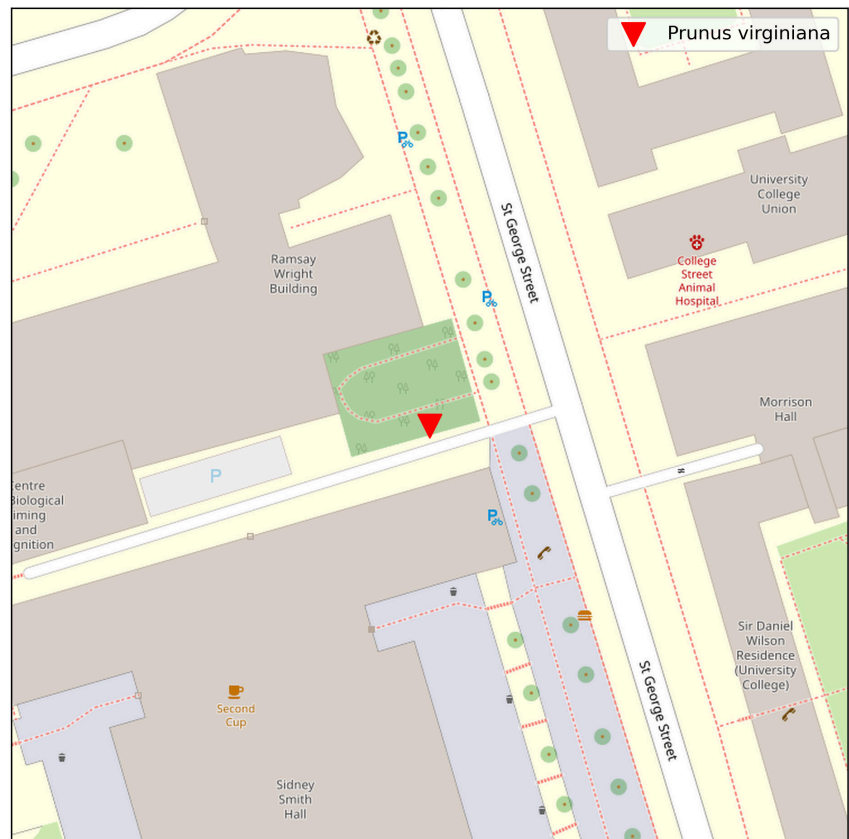
Rosaceae



NOTABLE FEATURES

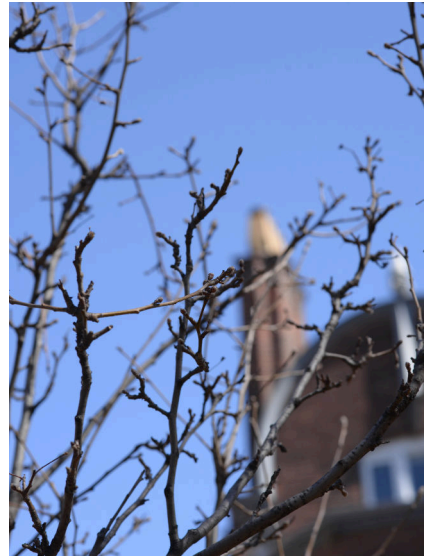
Choke cherry is a small tree or shrub. Its leaves are finely toothed. Leaves also have 2 glands at the base. Fruits resemble small (up to 1 cm) cherries.

Where to find one:



Pyrus calleryana Decne.
Callery Pear

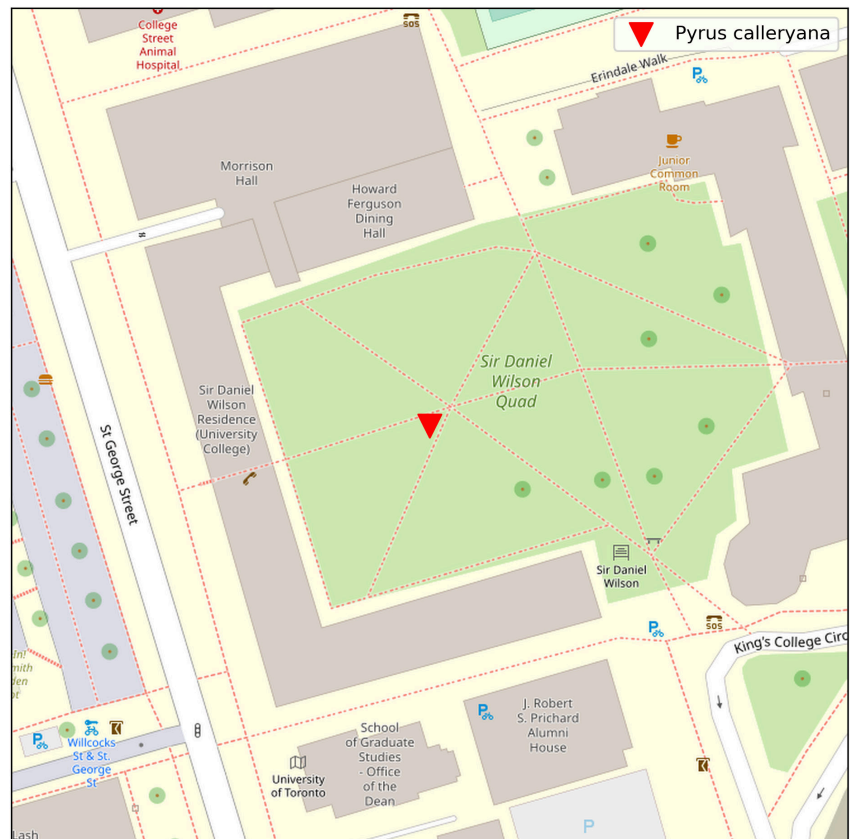
Rosaceae



NOTABLE FEATURES

Callery pear has showy spring flowers and makes a good street tree. The fruits are small and hard.

Where to find one:



Sorbus decora Marsh.
American Mountain Ash

Rosaceae



NOTABLE FEATURES

American mountain ash has pinnately compound leaves that are alternately arranged on twigs. Leaves may have up to 17 leaflets per leaf. Fruits are orange berries that grow in clusters. American mountain ash can be difficult to identify from showy mountain ash.

Where to find one:



Phellodendron amurense Rupr.
Amur Corktree

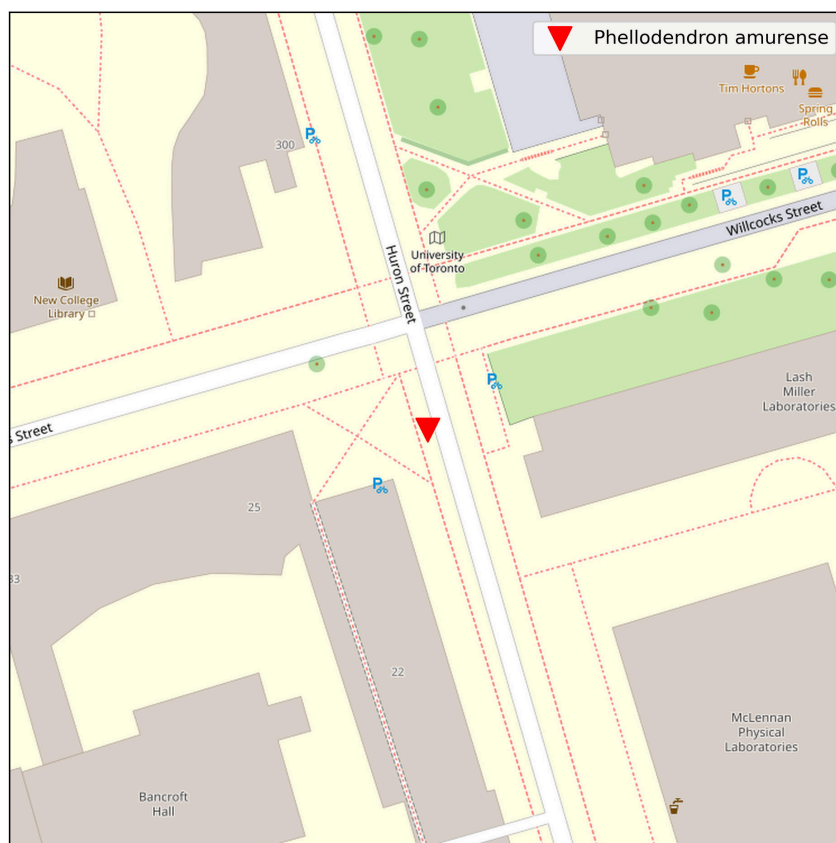
Rutaceae



NOTABLE FEATURES

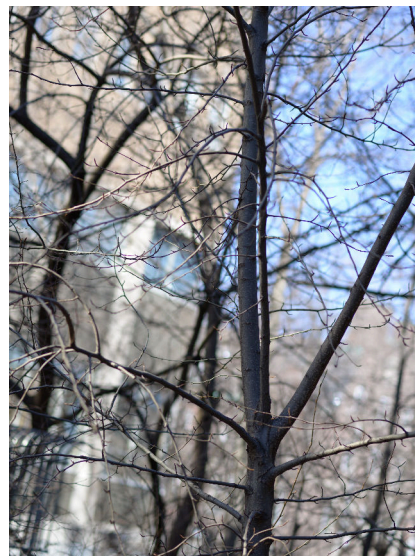
The amur corktree has distinctively corky bark. Leaves are compound with 5-13 leaflets per leaf. Fruits are berries that grow in large clusters. They are dark blue to black when ripe or grayish green when immature. They are easy to identify due to their opposite branching habit in combination with corky bark and compound leaves.

Where to find one:



Populus balsamifera L.
Balsam Poplar

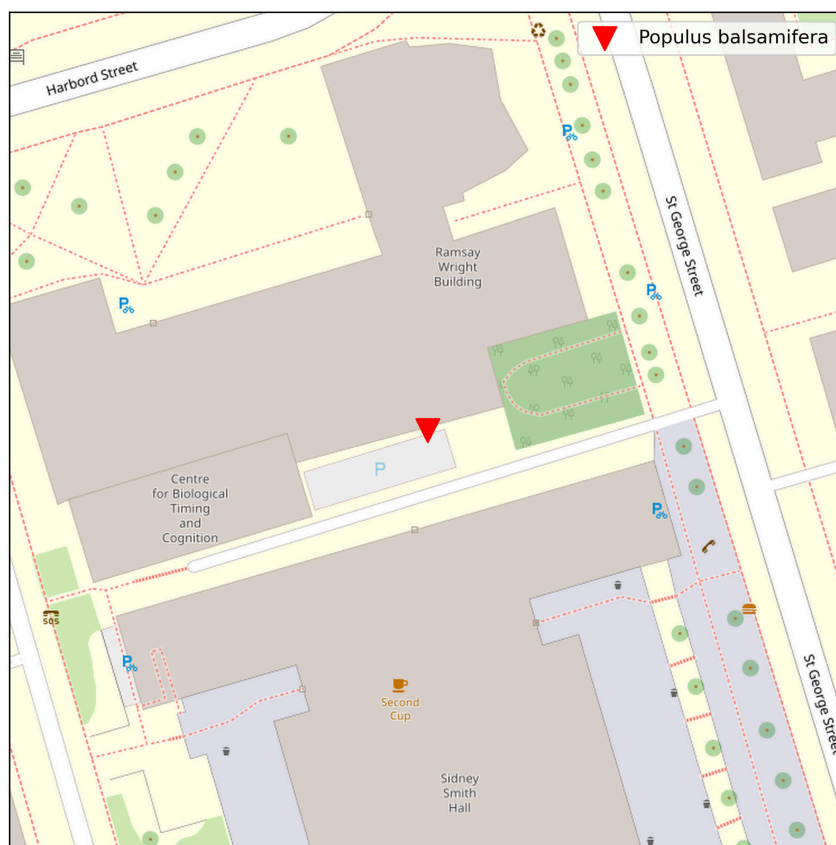
Salicaceae



NOTABLE FEATURES

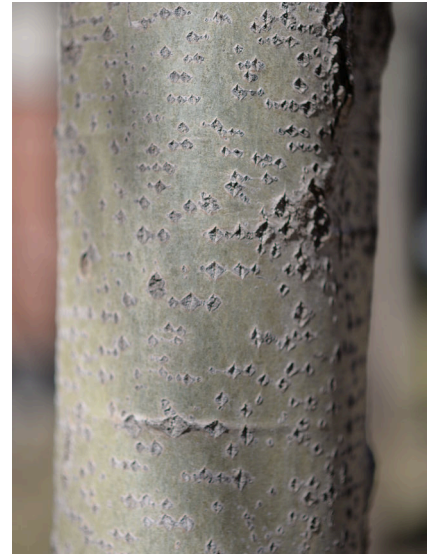
Balsam poplar leaves have longer petioles than some poplars. Leaves are toothed and egg-shaped. Glands may be found where the petiole meets the body of the leaf. Often grows in wet areas. Young bark is smooth, becoming rough and fissured with age.

Where to find one:



Populus grandidentata Michx.
Largetooth Aspen

Salicaceae



NOTABLE FEATURES

Largetooth aspen also goes by the common name bigtooth aspen. The teeth on the leaves are distinctively large. Leaves are simple, and alternately arranged. Distinctive diamond indents on the bark are also common.

Where to find one:



Populus tremuloides Michx.
Trembling Aspen

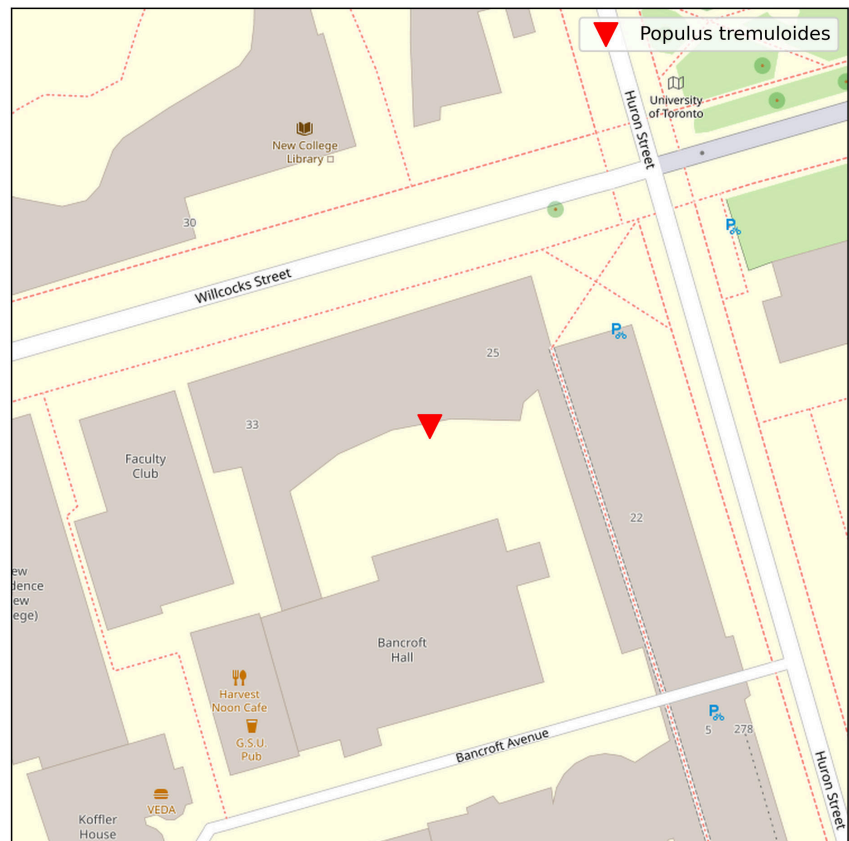
Salicaceae



NOTABLE FEATURES

Trembling aspen sprouts aggressively, so look for root suckers around a large tree. The leaf shape and bark are also quite distinctive. Sometimes aspen bark can resemble birch, but it does not peel and tends to be more silver/gray.

Where to find one:



Salix alba L.
White Willow

Salicaceae



NOTABLE FEATURES

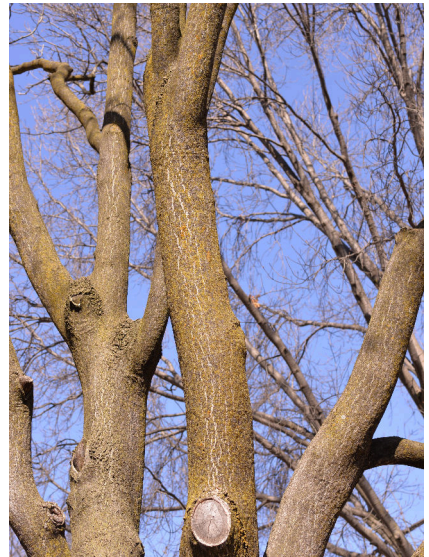
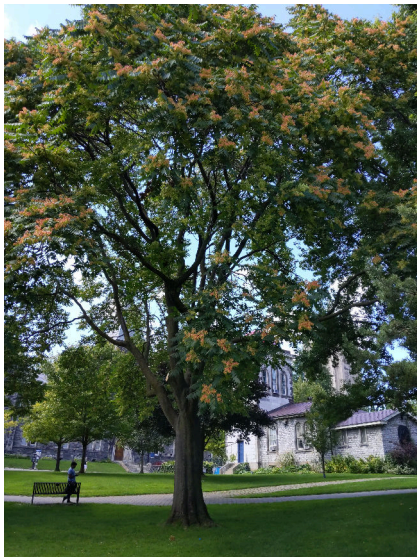
Look out for the weeping leaves, the yellow twigs, and the curved buds. They prefer marshy or wet environments such as lowlands and have very rough bark with deep ridges.

Where to find one:



Ailanthus altissima (Mill.) Swingle
Tree-of-heaven

Simaroubaceae



NOTABLE FEATURES

Tree of heaven can be identified by the pinkish wavy patterns that are often found on the bark, or by its pinnately compound leaves. Leaflets and especially fruits can be pungent. The species is extremely hardy and often grows in tight areas such as along fences or between cracks in pavement.

Where to find one:



Tilia americana L.
Basswood

Tiliaceae



NOTABLE FEATURES

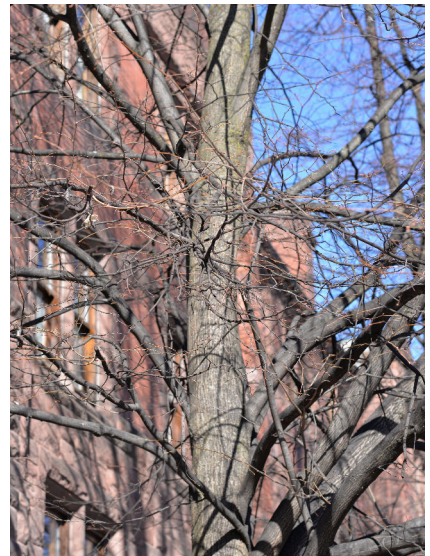
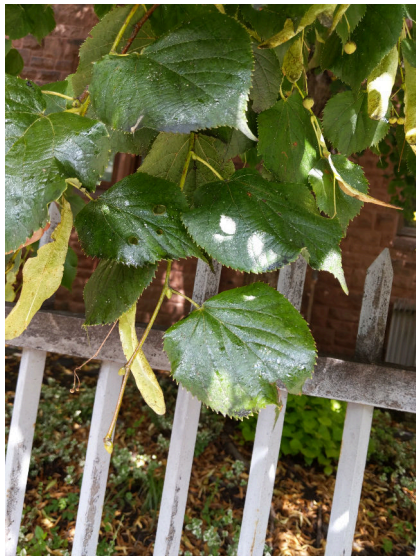
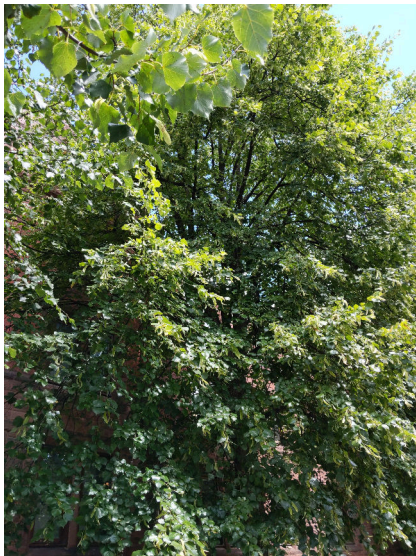
The basswood looks much like the little-leaf linden, but its leaves are significantly larger.

Where to find one:



Tilia cordata Mill.
Little-Leaf Linden

Tiliaceae



NOTABLE FEATURES

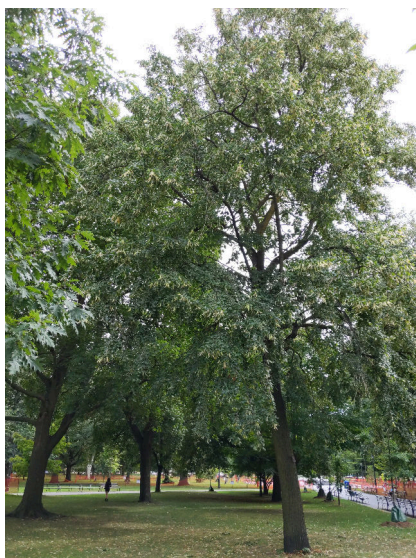
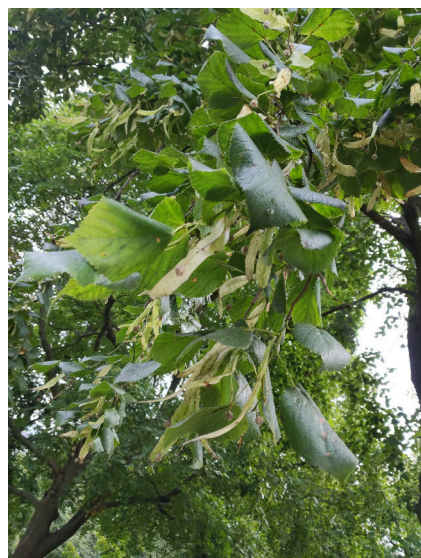
Little-leaf linden leaves have asymmetrical bases and are significantly smaller than basswood leaves. The presences of yellow bracts close to their leaves is an easy way to identify a linden.

Where to find one:



Tilia x euchlora K. Koch
Crimean Linden

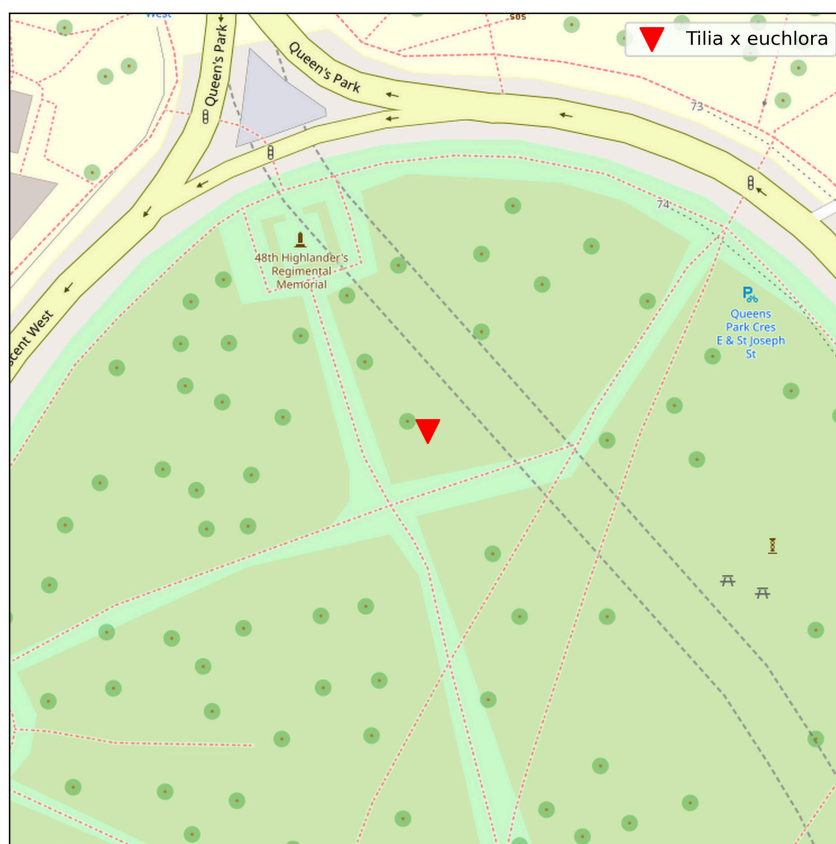
Tiliaceae



NOTABLE FEATURES

Lindens can be very difficult to tell apart. To make matters more complicated, Crimean linden is thought to be a hybrid offspring of little-leaf linden and another, similar linden species. Like little-leaf linden, it makes a good urban tree.

Where to find one:



Celtis occidentalis L.
Hackberry

Ulmaceae



NOTABLE FEATURES

The hackberry is easy to identify from its 'warty' bark. The berry-like fruits are also distinctive: they are dark red to purple in color, up to about 0.8 cm in length, and grow singly on stalks. They stay on the tree even during the winter months.

Where to find one:



Ulmus americana L.
White Elm

Ulmaceae



NOTABLE FEATURES

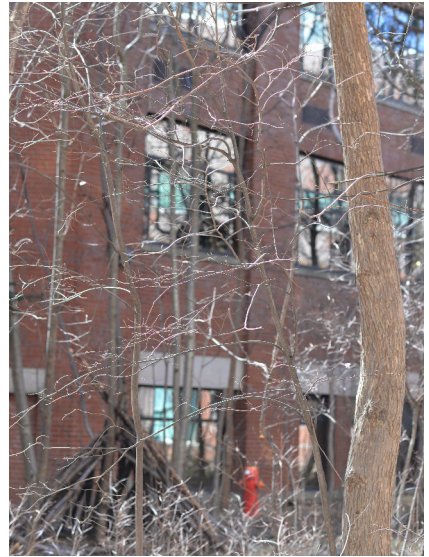
Also known as American elm. Leaves have distinctly asymmetrical bases, and are often rough-textured (although they may also be smooth). Elms are best known for their vase-shaped growth habit.

Where to find one:



Ulmus glabra Huds.
Scotch Elm

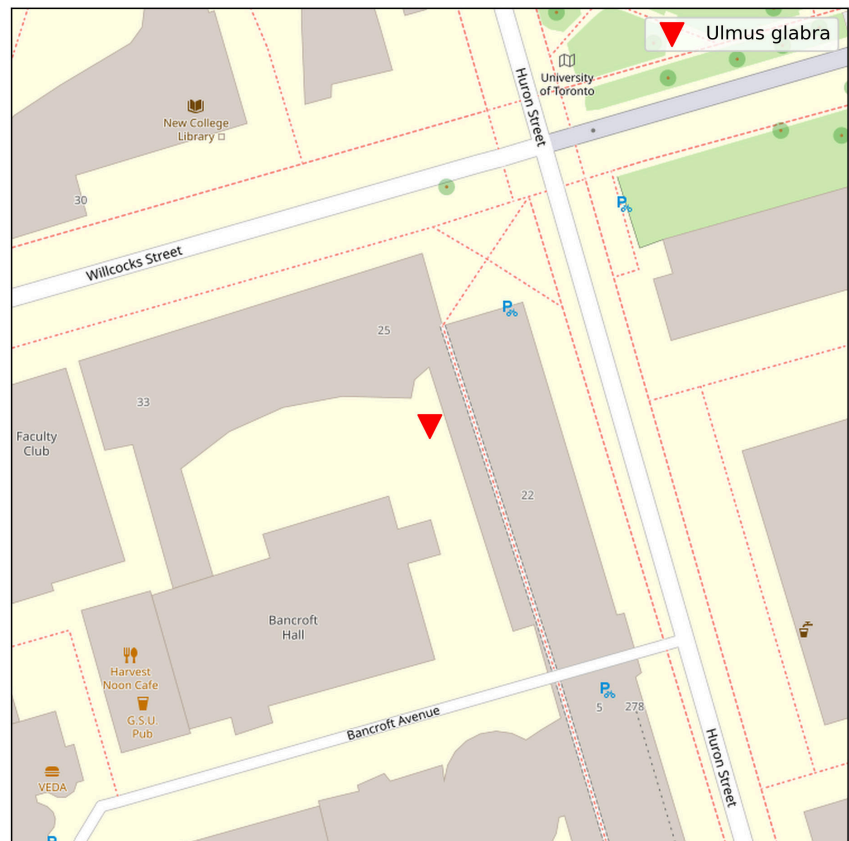
Ulmaceae



NOTABLE FEATURES

Scotch elm leaves are easy to recognize by their 'crown'-shaped tips. They are also very coarsely textured and feel a bit like sandpaper.

Where to find one:



Ulmus procera Salisb.
English Elm

Ulmaceae



NOTABLE FEATURES

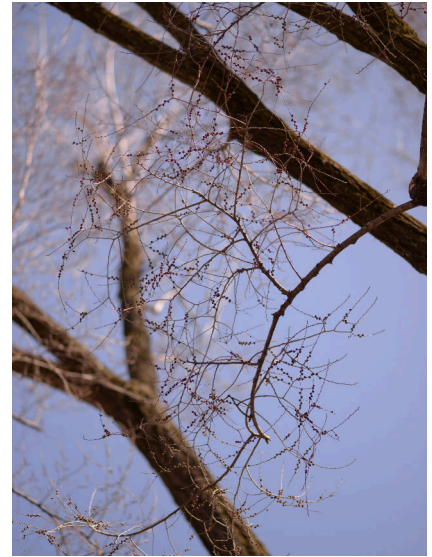
Like most other elms, English elm leaves have asymmetrical bases. Twigs may be covered in corky material. These corky twigs are probably the easiest way to identify this tree.

Where to find one:



Ulmus pumila L.
Siberian Elm

Ulmaceae



NOTABLE FEATURES

The Siberian elm has comparatively small leaves that look much more symmetrical at the base than most other elms. Leaves are often finely toothed. Often found planted in rows, they have been used in the past as hedges but when left uncared-for will grown into fullsize trees.

Where to find one:



Zelkova serrata (Thunb.) Mak.
Japanese Zelkova

Ulmaceae



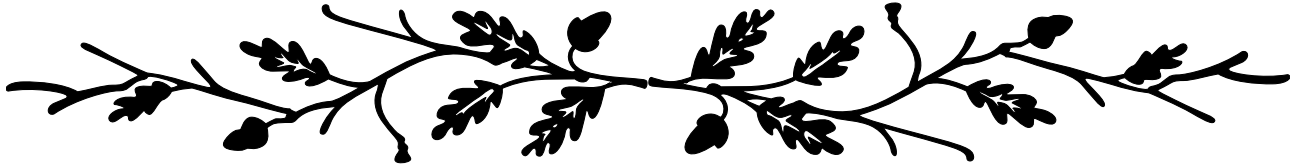
NOTABLE FEATURES

The Japanese zelkova has simple, toothed leaves in the shape of a lance. It is in the elm family, but is not sensitive to dutch elm disease.

Where to find one:



GLOSSARY



ALTERNATE:

only one leaf is present on a twig node (vs. whorled or opposite)

BIPINNATE:

compound leaf that is divided into leaflets twice (e.g., Japanese angelica, Kentucky coffee)

BRACT:

modified leaf that seems to be part of a flower/inflorescence

BUD:

first stage of a leaf or a flower

CAPSULE:

dry fruit opening with more than one hole, releasing seeds

CATKIN:

Group of flowers, often without or with small petals.

COMPOUND LEAF:

leaf that is divided into leaflets (e.g., black walnut)

CULTIVAR:

cultivated variety e.g., *Acer platanoides* 'Crimson King'

DENDROLOGY:

the study of woody plants

ENTIRE LEAF:

leaf that does not have teeth or lobes

HABIT:

form/behavior

LEAFLET:

what composes the compound leaves, first-division of the compound leaf

LOBE:

rounded part of the leaf that is projected

MARGIN:

the edge of a leaf

OPPOSITE:

leaves present in a pair on a node, across from each other on the twig (e.g., maples)

PALMATE:

like fingers on a hand, with lobes projecting from a central point

PETIOLE:

thin and elongated part that attaches the leaf to the twig

PETIOLULE:

thin and elongated part that attaches the leaflets of a compound leaf

PINNATE:

leaflets located along the petiole, on both sides, like a fern

PODS:

dry fruit containing a hollow centre, releasing one or more seeds

PRICKLE:

more or less sharp wooden structure

SCAR:

mark left on the twig after the leaf falls

SHRUB:

woody plant with many stems that is smaller than 4.5m high

STALK:

stem of the plant

TEETH:

round or pointy projection of the leaf margin

TWIG:

newly formed or young branch

UNDERSTORY:

plants growing below the canopy level

WHORLED:

leaves present all around the twig (compared to opposed or alternate)

REFERENCES



Farrar JL. 1995. Trees in Canada. Markham: Natural Resources Canada, Canadian Forest Service, Fitzhenry & Whiteside Limited.

Kershaw L. 2001. Trees of Ontario. Edmonton: Lone Pine Publishing.

Missouri Botanical Garden. 2019. [accessed 2019 Sep 2].
<http://www.missouribotanicalgarden.org/>.

The Plant List. 2013. Version 11. [accessed 2019 Sep 2]. <http://www.theplantlist.org/>.

Puric-Mladenovic D. and Kenney A. 2019. St.George Campus Neighborwoods tree inventory [accessed 2019 July 27] .

OpenStreetMap contributors. 2015. Planet dump [data file from 2021-03-19]. Retrieved from <https://planet.openstreetmap.org/>.

Daws M. 2021. tilemapbase version 0.4.7.<https://pypi.org/project/tilemapbase/>

INDEX OF SCIENTIFIC NAMES



- | | |
|---------------------------------------|--------------------------------------|
| <i>Abies balsamea</i> , 14 | <i>Celtis occidentalis</i> , 105 |
| <i>Acer ginnala</i> , 30 | <i>Cercidiphyllum japonicum</i> , 51 |
| <i>Acer griseum</i> , 31 | <i>Cercis canadensis</i> , 56 |
| <i>Acer negundo</i> , 32 | <i>Cladrastis lutea</i> , 59 |
| <i>Acer palmatum</i> , 33 | <i>Cornus alternifolia</i> , 52 |
| <i>Acer pennsylvanicum</i> , 34 | <i>Cornus kousa</i> , 53 |
| <i>Acer platanoides</i> , 35 | <i>Cornus mas</i> , 54 |
| <i>Acer pseudoplatanus</i> , 36 | <i>Corylus colurna</i> , 47 |
| <i>Acer saccharinum</i> , 37 | <i>Elaeagnus angustifolia</i> , 55 |
| <i>Acer saccharum</i> , 38 | <i>Euonymus alatus</i> , 50 |
| <i>Acer spicatum</i> , 39 | <i>Fagus grandifolia</i> , 61 |
| <i>Acer x freemanii</i> , 40 | <i>Fagus sylvatica</i> , 62 |
| <i>Aesculus glabra</i> , 72 | <i>Fraxinus americana</i> , 83 |
| <i>Aesculus hippocastanum</i> , 73 | <i>Fraxinus excelsior</i> , 84 |
| <i>Ailanthus altissima</i> , 101 | <i>Fraxinus pennsylvanica</i> , 85 |
| <i>Amelanchier arborea</i> , 89 | <i>Ginkgo biloba</i> , 28 |
| <i>Amelanchier laevis</i> , 90 | <i>Gleditsia triacanthos</i> , 57 |
| <i>Ariala elata</i> , 42 | <i>Gymnocladus dioica</i> , 58 |
| <i>Betula nigra</i> , 43 | <i>Hamamelis virginiana</i> , 70 |
| <i>Betula papyrifera</i> , 44 | <i>Juglans cinerea</i> , 75 |
| <i>Betula populifolia</i> , 45 | <i>Juglans nigra</i> , 76 |
| <i>Callitropsis nootkatensis</i> , 10 | <i>Juniperus virginiana</i> , 11 |
| <i>Carpinus caroliniana</i> , 46 | <i>Larix decidua</i> , 15 |
| <i>Carya ovata</i> , 74 | <i>Larix laricina</i> , 16 |
| <i>Catalpa speciosa</i> , 49 | <i>Liquidambar styraciflua</i> , 71 |

Liriodendron tulipifera, 78
Magnolia acuminata, 79
Magnolia stellata, 80
Magnolia x soulangeana, 81
Malus baccata, 91
Metasequoia glyptostroboides, 12
Morus alba, 82
Ostrya virginiana, 48
Phellodendron amurense, 96
Picea abies, 17
Picea glauca, 18
Picea pungens, 19
Pinus banksiana, 20
Pinus nigra, 21
Pinus resinosa, 22
Pinus strobus, 23
Pinus sylvestris, 24
Platanus x acerifolia, 88
Populus balsamifera, 97
Populus grandidentata, 98
Populus tremuloides, 99
Prunus serrulata, 92
Prunus virginiana, 93
Pseudotsuga menziesii, 25
Pyrus calleryana, 94

Quercus alba, 63
Quercus bicolor, 64
Quercus macrocarpa, 65
Quercus palustris, 66
Quercus robur, 67
Quercus rubra, 68
Quercus velutina, 69
Rhus typhina, 41
Robinia pseudoacacia, 60
Salix alba, 100
Sassafras albidum, 77
Sorbus decora, 95
Syringa reticulata, 86
Syringa vulgaris, 87
Taxus cuspidata, 27
Thuja occidentalis, 13
Tilia americana, 102
Tilia cordata, 103
Tilia x euchlora, 104
Tsuga canadensis, 26
Ulmus americana, 106
Ulmus glabra, 107
Ulmus procera, 108
Ulmus pumila, 109
Zelkova serrata, 110

INDEX OF COMMON NAMES



Alternate-Leaf Dogwood, 52
American Beech, 61
American Mountain Ash, 95
Amur Corktree, 96
Amur Maple, 30
Austrian Pine, 21

Balsam Fir, 14
Balsam Poplar, 97
Basswood, 102
Black Locust, 60
Black Oak, 69
Black Walnut, 76
Blue-Beech, 46
Bur Oak, 65
Butternut, 75

Callery Pear, 94
Choke Cherry, 93
Colorado Spruce, 19
Common Horsechestnut, 73
Common Lilac, 87
Cornelian-Cherry, 54
Crimean Linden, 104
Cucumber-Tree, 79
Dawn Redwood, 12

Douglas-Fir, 25
Downy Serviceberry, 89

Eastern Hemlock, 26
Eastern Redcedar, 11
Eastern White Cedar, 13
Eastern White Pine, 23
English Elm, 108
English Oak, 67
European Ash, 84
European Beech, 62
European Larch, 15

Freeman Maple, 40

Ginkgo, 28
Gray Birch, 45
Green Ash, 85

Hackberry, 105
Honey Locust, 57

Ironwood, 48

Jack Pine, 20
Japanese Angelica-Tree, 42
Japanese Flowering Cherry, 92

Japanese Maple, 33
Japanese Tree Lilac, 86
Japanese Yew, 27
Japanese Zelkova, 110

Katsura Tree, 51
Kentucky Coffeetree, 58
Kousa Dogwood, 53

Largetooth Aspen, 98
Little-Leaf Linden, 103
London Plane-Tree, 88

Manitoba Maple, 32
Mountain Maple, 39

Northern Catalpa, 49
Norway Maple, 35
Norway Spruce, 17

Ohio Buckeye, 72

Paperbark Maple, 31
Pin Oak, 66

Red Oak, 68
Red Pine, 22
Redbud, 56
River Birch, 43
Russian Olive, 55

Sassafras, 77
Saucer Magnolia, 81
Scotch Elm, 107

Scots Pine, 24
Shagbark Hickory, 74
Siberian Crab Apple, 91
Siberian Elm, 109
Silver Maple, 37
Smooth Serviceberry, 90
Staghorn Sumac, 41
Star Magnolia, 80
Striped Maple, 34
Sugar Maple, 38
Swamp White Oak, 64
Sweetgum, 71
Sycamore Maple, 36

Tamarack, 16
Tree-of-heaven, 101
Trembling Aspen, 99
Tulip Tree, 78
Turkish Hazelnut, 47

White Ash, 83
White Birch (Paper Birch), 44
White Elm, 106
White Mulberry, 82
White Oak, 63
White Spruce, 18
White Willow, 100
Winged Euonymus, 50
Witch-Hazel, 70

Yellow Cedar, 10
Yellow-Wood, 59

