

## TWIG TIPS

This is a study guide. I've tried to note down the little clues that I use to tell these plants apart. This list is not complete, but, if you learn these, you'll quickly realize who is new and different. Choose your own 'key characters', this is just what works for me.

Below, "C&A" refers to Core & Ammons, my primary winter twigs resources (it is available at <http://www.archive.org/details/woodyplantsinwin00core>); "McV" means Roger McVaugh's *Flora of Columbia County* (available digitally at [https://www.hvfarmscape.org/nuggets/McVaugh\\_%20flora.pdf](https://www.hvfarmscape.org/nuggets/McVaugh_%20flora.pdf))

### **Alder**

*Alnus*; p. 71 in C&A, p. 114 in McV.

There are two Alder species in the County. Both occur in wet areas. Alder are shrubby plants, although sometimes growing to 3" or more in diameter. They have thick, woody catkins that look like radiatore noodles. Their habitat and their opposite, rusty, naked buds make them distinct. Speckled Alder generally has drooping catkins, while Smooth Alder holds its more upright.

### **Apple, Pear, Crabapple**

*Malus* (sometimes *Pyrus*); p. 108 in C&A, p. 151 in McV.

In the County, these are all non-natives. As such, they primarily occur around houses and in current or former agricultural areas. They tend to be typical fruit trees, meaning small trees with a spreading form when in the open. While feral Apples and Pears can be found in young forest, these species are rarely considered "invasive". At present, Toringo Crabapple is spreading rapidly throughout the County, primarily in hedgerows and old fields. Look for its pea-sized, yellow-orange fruits; spiny appearance due to numerous bud-bearing spur shoots; and often tri-lobed leaves (check the ground).

### **Ashes**

*Fraxinus*; p. 179 of C&A, p. 190 of McV.

Ash, as a group, have conspicuous features. Their buds are opposite, their twigs stout, bundles scars large and terminal bud somewhat resembling a religious miter. There are three species in the County: White, Green (merged with Red) and Black Ash. The latter two are wetland species. Ash have thick, not frequently branching, and not very graceful twigs that give them almost a tinker-toy look. Bark generally has deep vertical ridges.

White Ash is the most common species. Green Ash is distinguished from White Ash by its sometime pubescence and the lesser indentation of the bud atop the leaf scar, and from Black Ash by its circular leaf scars together with smooth twigs.

### **Aspen, Poplar, Cottonwood**

*Populus*; p. 55 of C&A, p. 107 of McV.

We have at least three native species of this genus: Trembling/Quaking Aspen, Big-tooth Aspen and Cottonwood. Trembling and Big-tooth Aspens are upland trees, often growing in openings. Both have tight bark that can vary from the white of white birch to a greenish, off-white. Cottonwood is found mainly along streams and rivers; and has ridged bark somewhat resembling that of Willow.

The buds are alternate. Those of Trembling Aspen and Cottonwood are a rich, shiny brown, while those of Big-tooth have a dusty grayish bloom on them. Cottonwood buds are the largest.

### **Autumn Olive, Russian Olive**

*Elaeagnus*; p.155 of C&A ; recently introduced, not in McV.

There are at least two species in the County – Autumn Olive and Russian Olive. They tend to be shrubs or small trees. The twigs have a fine, metallic speckling that is distinctive once you recognize it. Buds are small and rounded. They tend to occur along hedgerows and in old fields. They produce sour, red berries, but these are often gone by winter.

### **Basswood/Linden**

*Tilia*; p. 151 of C&A; p. 168 of McV.

There is one species native to the County. Basswood grows to be a large tree, and is often found on rich soils. Reportedly favors calcareous soils, but most common on moist (eg. Streambank) soils. It has thick, somewhat zig-zaggy twigs with large, bulbous, often red, alternate buds.

### **Beech**

*Fagus*; p. 73 of C&A, p. 115 of McV.

American Beech is our only native species in the area. Beech twigs have unique, alternate, cigar-shaped buds. The bark of a healthy tree is smooth and grey.

### **Birches**

*Betula*; p. 68 in C&A, p. 111 in McV.

There are six native species in the County. Four of these are fairly common (Black, Yellow, Grey and White Birches). The two others (River and Bog Birch) are scarcer, both of these are lowland/wetland species, and I am not personally familiar with them. Bog Birch is considered ‘Threatened’ in New York State.

Birch in general have alternate buds, often borne on short spur shoots; their seeds, as with the rest of the Birch Family, are held in catkins. Grey and White Birch are white-barked; Grey tends to have tighter bark and multiple trunks. White Birch, also known as Paper Birch, has the classic peeling bark of birch-bark canoe fame. Black and Yellow Birch, unlike the preceding two species, are sweetly aromatic. Black Birch has tight, dark bark; Yellow Birch has bark that peels in shreds and usually has a yellowish-golden tinge.

### **Blackberry, Raspberry**

*Rubus*; p. 115 of C&A, p. 149 of McV.

Another of the Rose family’s banes to taxonomy. We won’t worry about species. As a whole, these are generally prickly, sprawling plants. Their alternate leaves do not separate cleanly, and so the leaf scars are usually sloppy and bundle scars are not distinct.

### **Blueberries/Cranberries**

*Vaccinium*; p. 175 of C&A; p. 186 of McV.

I only include these here for the sake of some completeness – they are somewhat non-descript, at least in winter. Eight species are reported from the County. In general, they are alternate-leaved, gracile, sometimes fuzzy. They are trailing plants or small shrubs, and are often found in wetlands or on dry, rocky or sandy soils. Twig tips are often fuzzy, and the leaf scars are flanked by evident stipules.

## **Buckthorn**

*Rhamnus*; p. 143 of C&A; p. 167 of McV.

Two species in Columbia County. However, one of these (*R. alnifolia*) is reportedly limited to calcareous wetlands. It is a short (<3') shrub that grows in clumps. By far our most common species is European Buckthorn, from Eurasia. It is widely naturalized. It can reach the size of a small tree.

European Buckthorn, at least, is both opposite and alternate. You can often find both these styles on the same bush, along with some confusing intermediates. There are often terminal thorns extending directly from the tip of the branch.

## **Cherries**

*Prunus*; p. 121 of C&A; p. 153 of McV.

There are four native species in Columbia County; three of which (Black, Choke and Pin Cherries) are relatively common. Cherries as a whole can best be distinguished by their bitter, medicinal scent that sometimes reminds people of almonds. As a mature tree, Black Cherry has distinctive, black, "potato-chip" bark. Pin and Choke Cherries are usually shrubs, sometimes small trees. Pin Cherry has clustered end buds and, occasionally, spur shoots. Choke Cherry has larger buds that are somewhat bicolor and metallic. All cherries are sometimes attacked by Black Rot which causes woody, black swellings on the branches.

## **Dogwoods**

*Cornus*; p. 158 of C&A, p. 181 of McV.

While there is some taxonomic disagreement, there appear to be seven species of Dogwood in our area. One gets to be the size of a small tree (Flowering Dogwood), while another (Bunchberry) is a low groundcover. All but one (Alternate-leaf Dogwood) have opposite leaves. There is often a reddish tinge to the twig bark – a thornless shrub with hints of burgundy in the bark is often a dogwood; Flowering Dogwood however doesn't have this tinge (and Serviceberry can have hints of purple, but is alternate-leafed and not really reddish). At least on the most common species, the buds are small, and almost appear shriveled.

## **Elms**

*Ulmus*; p. 83 of C&A, p. 117 of McV.

We reportedly have three species in the County, but only two (American and Slippery Elm) are common. American Elm populations have been severely reduced by Dutch Elm Disease, but it is still common in parts. A third species, Rock or Cork Elm, is scarce locally and 'Threatened' at the state level; I don't know it.

Elms in general are distinguished by their crooked buds – the end bud looks as if it got squashed to one side and the side buds are lop-sided above the prominent leaf scars. Distinguishing our two common species is largely a matter of looking at interior bark color (distinctly light brown/dark brown, oreo cookie in American; mono-café con leche color in Slippery); I've not had much luck telling them apart from buds, although Slippery should tend to be hairier.

## **Hawthorns**

*Crataegus*; p. 112 of C&A, p. 153 of McV.

Hawthorn are a taxonomic nightmare. We'll only worry about ID'ing the genus as a whole. These plants are shrubs to small trees usually with massive, sharp, lateral spines. While other native woody plants in our area have thorns, and Buckthorn sometimes has terminal spines, these armaments are distinct. They are usually found in old fields; their presence in a forest often indicates past grazing.

## **Hazel**

*Corylus*; p. 67 in C&A; p. 111 in McV.

These are true hazels, i.e., the same genus from which hazelnuts are collected. Here, one rarely finds intact hazelnuts. They are generally small to medium bushes. They have blunt, alternate buds with a neat, three-scale pattern. Small catkins are often present.

American Hazel is apparently the more westerly species in the County. Its branches are covered with a coarse, reddish-brown fuzz; catkins are about the width of a paper matc; they are roughly half the length of such matches. The catkins also have a brownish, reddish color. Beaked Hazel is the more easterly species in the County; the species we see around Hawthorne Valley. The catkins are usually greyer, shorter and stouter than the above species, although there is some overlap in length. Beaked Hazel twigs are fuzz-less.

## **Hemlock**

*Tsuga*; p. 31 of C&A; p. 40 of McV.

There is only one species here. These are large trees, often found on shallow soils on steep hillsides. Needles are flattened and mainly arrayed in one plain, distinct from the rounded needles of Pine (and Spruce), and the prickly or scaley foliage of Red Cedar.

## **Hickories**

*Carya*; p. 61 of C&A, p. 106 of McV.

Hickories have large, alternate leaf scars; the largest of any common alternate-leafed trees.

There are four species of hickory in our area; only three of these are widespread (Bitternut, Shagbark and Pignut Hickories). Mockernut is a Hudson Valley Species. Although young trees can be tricky, Shagbark has its distinctive bark and a large endbud. Pignut bud is similar but tends to be smaller; its bark is not shaggy (although it may sometimes peel slightly in strips). Bitternut has naked, yellow end buds that are not easily mistaken. Mockernut is supposedly the only local hickory with hairy twigs and leaves; however, I am not personally familiar with it. Nuts and their husks can be helpful when distinguishing high trees whose buds are out of view.

## **Ironwood, Hop-Hornbeam**

*Ostrya*; p. 67 in C&A; p. 111 in McV.

There is a single species in our area. It is a small tree with distinctive “French-fry” bark and a delicate, almost oriental structure. The twigs are slim with alternate buds which are enlarged relative to the twigs; buds have fine vertical ridges when inspected under magnifying glass.

## **Locust**

*Robinia* and *Gleditsia*; p. 130 of C&A, p. 156 of McV.

Black Locust (*Robinia pseudoacacia*) is not native but is widely naturalized. It has prominent but unforked spines that are paired and extend from each side of the lateral buds. Leaf scars are inconspicuous – they are membranous covers to future buds. Most similar to Prickly Ash which also has paired spines; however, leaf scars are clean and evident in the latter. Black Locust has dry, snap pea sized legume pods that sometimes persist into winter. Honey Locust (*Gleditsia triacanthos*) usually has dramatic, branching spines that are often three or more inches long; its dark, mahogany-colored pods can be a foot or more long.

## **Maples**

*Acer*; p. 139 of C&A, p. 167 of McV.

Maples are opposite leaved. There are about 6 native maples in our area; at least three of these (Sugar Maple, Red Maple and Striped Maple) are widespread and common. Two of the others (Silver Maple and Box Elder) are mainly Hudson Valley lowland species, while the other (Mountain Maple) is a hill species. Norway Maple, a stout-budded tree, is introduced and common in some parts.

Red, Sugar, and Silver Maple are, along with Box Elder, the only large, opposite-leaved trees in our area aside from the very distinct Ashes. Smaller Maples can be trickier because they can be confused with Viburnums. Striped Maple has distinctive green bark with white streaks, at least on stems of intermediate size.

## **Mulberry**

*Morus*; p. 87 in C&A; p. 117 in McV.

There is reportedly both a native Red Mulberry and a European White Mulberry in the County. The White Mulberry seems to be the most common, and we've found it scattered around old farm fields and homesteads. These are usually medium-sized fruit trees. While not dramatic, the bark usually has a yellow-orange tinge. The relatively small, off-center buds are reminiscent of elms. The Blackberry-esque fruits are sought by much wildlife and well gone by winter.

## **Musclewood, American Hornbeam, Blue Beech**

*Carpinus*; p. 68 in C&A; p. 111 in McV.

There is but one native species in our area. This is a small tree with silver-grey, "spandex" bark clinging to muscular-appearing trunk. Buds are small, but clearly square in cross-section when inspected with magnifying glass. The buds are alternate and distinctly two-tone in color.

## **Oaks**

*Quercus*; p. 74 of C&A, p. 115 of McV.

We have nine local, native species. The most common are White, Red, and Chestnut Oaks. Oaks as a whole, apart from their characteristic acorns, are usually distinguished by relatively stout twigs; modest, alternate, lateral buds; and clustered end buds. Two of our species are shrubs. Distinguishing amongst species based on twigs is somewhat more difficult, but their sturdy leaves are almost always present below the tree as are at least the caps of the acorns. Oaks are split into two general groups: Red Oak Group (with bristle-tipped leaf lobes) and White Oaks (with rounded lobes).

## **Pines**

*Pinus*: p. 53 of C&A, p. 39 of McV.

We have three native species (White, Red and Pitch Pines). All three species are evergreen, and there is little difference between summer and winter appearances. White Pine, generally are most common species, has long (5-6") plumulous needles that come in bundles of five; Red Pine has shorter stouter needles with two to a bundle, and Pitch Pine needles are in threes and occasionally seem to be popping out of the trunk bark.

## **Red Cedar, Common Juniper**

*Juniperus*; p. 43 of C&A, p. 40 of McV.

Despite its common name, Red Cedar is not a true cedar but rather a Juniper. It grows into small trees often in old pastures. The bark is reddish and comes off in strips; the foliage of young trees or low branches is pointed and prickly to the touch; the foliage of higher branches is more flattened and scaly. A second species, Common Juniper, is somewhat similar in foliage, but is a low-growing bush. *Juniperus* have berries rather than cones, and often have show the dried remains of Apple-Cedar Rust fruiting bodies, which look somewhat like small, shriveled apples.

## **Roses**

*Rosa*; p. 117 of C&A, p. 150 of McV

We have two common native species (Pasture and Swamp Rose); these co-occur with at least two introduced species (Dog and Multiflora Rose). The latter is an invasive species that readily invades pastures. As whole, Roses are prickly bushes, distinguishable from Blackberries by their clean-cut leaf scars.

The species are best distinguished by size and number of fruits or hips. Multiflora Rose has distinct bunches of small hips; the hips of Dog Rose are large (approaching 1”), elongate and not bunched; Pasture Rose hips are round and only slightly larger than those of Multiflora Rose, but are not bunched. Habitat also helps – Swamp Rose is found in wetlands.

## **Sassafras**

*Sassafras*; p. 98 of C&A, p. 135 of McV.

We have only one species. Its stout, green, wonderfully aromatic twigs are distinct. Leaves are alternate. Seems patchy and bedraggled in our area.

## **Serviceberry, Juneberry, Shadbush**

*Amelanchier* spp.; p. 109 in C&A; p. 151 in McV

As a genus, *Amelanchier* is fairly distinct. It has alternate, skinny buds coming to a sharp point. All buds, but especially the end buds, form a distinct (at least to me!) goose head. The bark is tight and smooth; it often has darker streaks and a hint of purple.

There are reportedly 6 or so species of *Amelanchier* in the County. I haven't learnt to tell them apart in winter. Our largest and most common species is *A. arborea*. If you find *Amelanchier* as small shoots gathered in clumps then you've probably got one of the other species.

## **Spicebush**

*Lindera*; p. 98 of C&A, p. 135 of McV.

This species is a modest wetland shrub. Leaf scars are alternate, but they often bear paired, flower buds the size of bb's. Aptly enough, the twigs have a strongly spicy odor.

## **Viburnums**

*Viburnum*; p. 191 of C&A, p. 210 of McV.

There are about 7 species of *Viburnum* in Columbia County. They are all shrubs, although some may reach 20' or so. Common species are Arrowwood, Nannyberry and Maple-leaf Viburnum. All *Viburnum* are opposite but there is quite a bit of variation in bud shape. Those with long, skinny buds are unmistakable; those with shorter, rounder buds sometimes resemble maple.

## **Walnut/Butternut**

*Juglans*; p. 61 of C&A, p. 105 of McV.

Butternut and Black Walnut occur in our area, although the latter may not be native.

Somewhat similar to Hickories, but end buds do not have scales (neither does Bitternut Hickory), lateral buds are often doubled, and pith is chambered. In Columbia County, Black Walnut is mainly a tree of gardens and roadsides, rarely occurring in deep forest. Butternut is a forest tree, but has been extensively reduced by a fungal disease. I see the fruit

in the forest more often than I find the tree. The nut of the Butternut is football shaped with sharp ridges; the Black Walnut nut is more spherical with more rounded ridges.

### **Willows**

*Salix*; p. 46 of C&A, p. 108 of McV.

I can't tell the species apart with confidence. There are many species (McVaugh cites about 17), but the genus as a whole can easily be identified by alternate buds covered by a single budscale that looks like a slipper. Supposedly, the larger, tree-sized willows are fairly easy to tell apart, at least in leaf. Core and Ammons presents a key. Willows are found mainly along streams

### **Witchhazel**

*Hamamelis*; p. 103 of C&A, p. 145 of McV.

A common and unique understory shrub. This plant blooms in late autumn, and flowers are usually visible throughout winter, as are old fruit husks. Twigs tend to be zig-zaggy, The buds are alternate and without obvious scales (they look like tiny shriveled leaves).