or several years, the Saratoga Mentoring Program has been "Meeting the Trees" with a variety of art and educational projects, including tree plantings and this guide.

Text written by Susan Shanley and edited by Susan Brome. Graphic design and illustrations by Raechel Morris of Frame Work.



Great oaks from little acorns grow.

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Saratoga Mentoring Program
368 Broadway, Room 16
Saratoga Springs, NY 12866
(518) 581-1487
www.saratogamentoring.org
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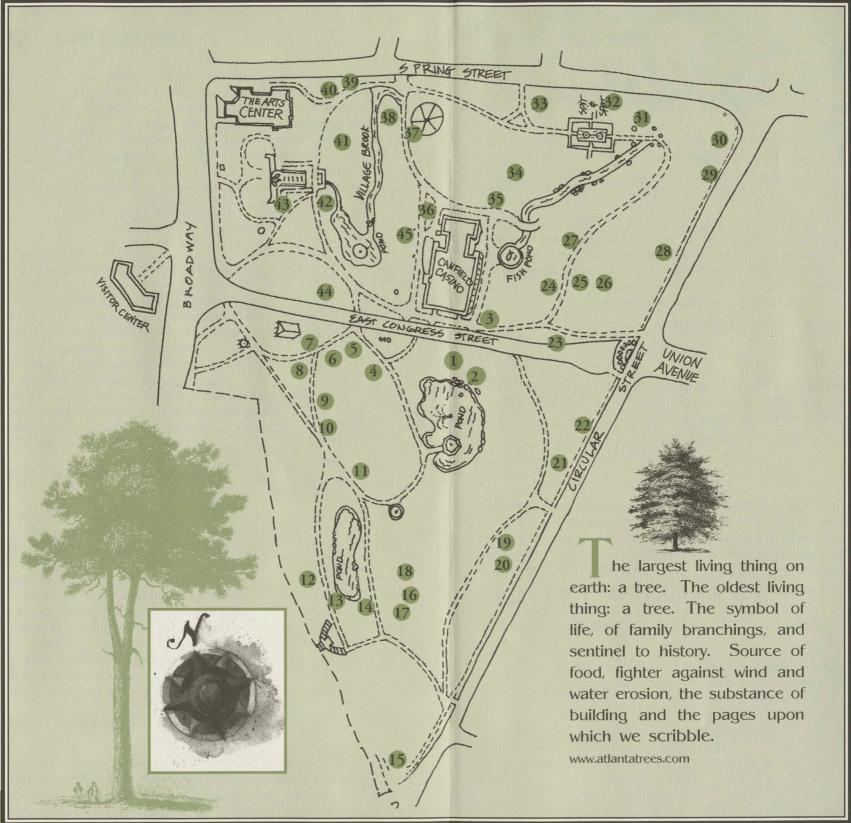
MEETTHE TRESIN CONGRESS PARK

SARATOGA SPRINGS

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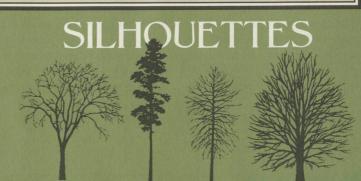
The Saratoga Foundation

CONGRESS PARK



"It is well that you should celebrate your Arbor Day thoughtfully, for within your lifetime the nation's need of trees will become serious. . . . In your full manhood and womanhood you will want what nature once so bountifully supplied and man so thoughtlessly destroyed; and because of that want you will reproach us . . . for what we have wasted."

Theodore Roosevelt, 1907 Arbor Day Message



American Elm · Eastern White Pine · Pin Oak · Sugar Maple

1. American Elm (Ulmus americana):

In summer, the leaves of this tall, graceful tree number in the hundreds of thousands. Stand back and notice its vase-like shape. Elms once lined Broadway and many other main streets across the country. Native Americans often held council under them. Dutch elm disease killed ninety percent of these majestic trees, but now there is hope. Scientists have developed hybrid elms resistant to this disease. The leaf of the elm has many parallel veins, feels slightly sandpapery, is double-sawtoothed, and lopsided at the base. It turns yellow in autumn.

2. American Sycamore

(Platanus occidentalis):

Sycamores have been on the planet for 150 million years. They grow very fast and can get very large.

Early settlers found some hollow sycamores large enough for families to camp inside until they could build cabins. It is said that Native

Americans made canoes up to 60 feet long

from the hollowed-out trees. The leaf of the sycamore looks a bit like a maple but is bigger and a duller green. Notice the sycamore's mottled bark and the fruits that hang in the fall, resembling enormous bumpy marbles.

3. Northern Catalpa

(Catalpa speciosa) (Bean Tree):

While this catalpa stands just east of the Casino, many more surround
Spit and Spat in the Italian garden. Enjoy the catalpa's gigantic heart-shaped leaves. Its masses of large white bell-shaped flowers bloom in late spring. Long seedpods, looking like string beans, grow in summer and hang on through winter.

The trees near Spit and Spat have been "pollarded,"

The trees near Spit and Spat have been "pollarded," that is, pruned to maintain a formal shape.

4. Sugar Maple

(Acer saccharum):

The sugar maple can live for centuries in the woods. Known for its vibrant autumn colors-bright yellow, orange, and deep red--it is also one of our most valuable hardwoods. In early spring, sugar maples are tapped for their sweet sap, which is made into syrup. A single tree can give up to 60 gallons of sap a year. Samaras (seeds) hang in pairs, like tadpoles nose to nose. Toss them into the air and watch them turn into helicopters. Notice that the leaves have five lobes, each with deep rounded notches. The sugar maple is the state tree of New York and Vermont.

5. Green Ash

(Fraxinus pennsylvanica):

Ashes have a distinct look, especially noticeable in winter, when their stout opposite twigs and branchlets are clearly visible. Samaras (sometimes known as keys) look somewhat like tiny canoe paddles.

Before dropping in the fall, they hang in thick bunches, attracting birds. Among the several varieties of ash native to our country, the hardy green ash is the most widespread and is planted extensively in cities. It is difficult to distinguish among varieties of ash. Green ash leaflets are more sharply toothed, greener on their undersurfaces, and narrower than the white ash (see #23). They turn yellow in fall.

11. Tulip Poplar

(Liriodendron tulipifera):

Tulip poplar trees that President Washington planted at Mt. Vernon are still alive today. Members of the magnolia family, tulip poplars grow so straight and tall that Daniel Boone was able to carve a 60-foot dugout canoe from one to move his family and goods. They grew 200 feet high in primeval forests. Today, furniture, veneers, and musical instruments are made from their wood. In spring, look for 2-inchwide tulip-shaped orange and green flowers. The uniquely shaped leaves smell spicy when crushed. Songbirds are fond of tulip poplar seeds.

12. Butternut

(Juglans cinerea) (White Walnut):

In autumn when nut-bearing trees are producing, it's easy to tell a butternut from a black walnut. Both nuts are edible, but the husk of the butternut seed is egg-shaped and the black walnut husk is spherical. A yellow or orange dye can be made from the butternut husk, which is covered with sticky hairs that stain curious fingers. Butternut wood is lighter brown than black walnut. The leaves tend to be bigger and more hairy underneath although with fewer leaflets per compound leaf.

13. Horsechestnut

(Aesculus hippocastanum):

Legend says that people in Turkey used the seeds of the horsechestnut to concoct a cough remedy for horses, hence its name. Another possible explanation: the leaf scar--left on a branch when a leaf falls off--is shaped like a horseshoe. In spring, huge buds open into tall clusters of showy white flowers. In autumn, large spiky capsules contain 1 to 3 shiny, smooth, red-brown nuts that in their natural state are not edible by humans. The game of "conkers" was once a favorite with kids: thread nuts on a string and listen to the music they make "conking" into each other.

14. White Willow (Salix alba):

Throughout the world there are more than 200 species of willow, which love water and often grow on stream banks or by a pond. The white willow grows up to 80 feet high.

Dioscorides, a Greek physician in the first century A.D., used willow bark to break a fever. Research today confirms that willow bark and leaves are high in salicin, the basis of natural aspirin. Throughout history, willow has been used to make baskets, bird cages, fish traps, and woven furniture.

15. Black Walnut (Juglans nigra):

The wood of the black walnut is dark and highly valued for furniture and cabinets. The nut is edible, boasting an earthier taste than the English walnut. In Pompeii, archaeologists found walnuts preserved by the eruption of Mt.

Vesuvius. A dark brown dye can be made from the husk, and a yellow dye from the bark. The black walnut tree has compound leaves with 15 to 23 leaflets, which turn yellow in autumn.



6. Urban Elm

(Ulmus homestead):

(See #1.) This tree is one of the hybrid elms developed by scientists to resist Dutch elm disease. Walk the streets of Saratoga Springs and see the many urban elms planted by the city forester from the Department of Public Works.



Northern White Cedar

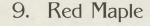
(Thuja occidentalis):

Many animals, including deer, moose, and hare, find food and shelter in groves of white cedar, an evergreen also known as Arborvitae (Tree of Life). During winter, white cedars lining shores of Adirondack lakes look like they've had haircuts. That's because deer browse on the fan-like sprays of leaves and can reach only so high. Notice the stringy bark. Tea made from the needles and bark is rich in Vitamin C and saved Jacques Cartier and his explorers from scurvy.

Norway Maple

(Acer platanoides):

Often mistaken for a sugar maple, the Norway maple has several distinct characteristics. The underside of its leaf is green, whereas that of the sugar maple is whitish. Its samaras (seeds) have a wider spread. A sure test is to break off a leafstalk and notice the milky white sap at its end, as compared to the clear sap of a sugar maple. Norway maple bark is neat and interlaced, whereas sugar maple bark is shaggy. In autumn, its dark green leaves turn yellow and fall after all the other maples.



(Acer rubrum):

One of the first trees to blossom in spring and to redden in autumn, the red maple is the most widespread tree on the East Coast and one of the few hardwood trees that live in swamps. Henry David Thoreau, author of Walden, sang its praises, writing of its red buds in winter, red flowers in early spring, and brilliant red leaves in fall. Pioneers made

brown-black ink and dye from its bark. The wood is similar to sugar maple, though not as hard.

> Today I have grown taller from walking with the trees.

Silver Maple

(Acer saccharinum):

The silver maple can be distinguished from other maples by its leaf color-silver on the undersides--and leaf shape, which is more like a star and has much deeper lobes than other maples. The silver maple grows quickly, and thrives in moist soil. It can grow 50 feet in 20 years! When the wind is up, don't rest under a silver maple because its brittle branches snap under duress.



16. White Oak (Quercus alba):

There are more than 500 species of oaks, 14 native to New York. Black bears, wild turkeys, foxes, squirrels, and other animals depend on acorns for high-energy food. All oaks in this region are in either the white oak or red oak group. To tell a white oak from a red, check the lobes of the leaves. White oak leaf lobes are rounded and smooth; red oak leaf lobes are pointy and bristle-tipped. In winter, recognize oaks at a distance by their leaves, still clinging to branches. Check bark, buds, and remaining acorns to identify the species. Queen of the oaks, the white oak is considered the finest all-around hardwood in America. Its acorns, a favorite of birds and squirrels, are sweeter than those of the red oak. Native Americans taught pioneers how to grind them into flour.

17. Pin Oak (Quercus palustris):

(See #16.) The pin oak (a member of the red oak group) gets its name from the pin-like appearance of the many twigs and branches that stay on the tree long after they have died. This tree has a unique silhouette, especially noticeable in winter. Its lower branches swoop downward, middle branches outward, and top branches upward. Pin oak leaves are small, pointy and have deep lobes, changing to a bronze or red in autumn. The acorns are very small.

I he wonder is that we can see these trees and not wonder more.

Ralph Waldo Emerson

18. Eastern White Pine

(Pinus strobus):

Perhaps the most regal of our native conifers, the white pine has a familiar scent--from the sap that oozes from its bark. The tall, straight trunks were prized as ship masts during colonial times. Houses, bridges, and barns were built from its wood. Three hundred years ago, white pines grew in forests with trees so dense that legend claimed a squirrel could travel all its life without ever coming down from the trees. White pine needles are clustered in bundles of five and can be made into a tea that is high in Vitamins C and K. A grove of large white pines near Broadway stands sentry above the Spirit of Life Memorial.

Northern Red Oak 19.

(Quercus rubra):

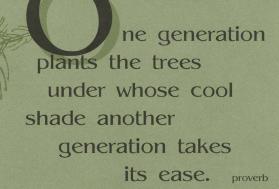
(See #16.) The red oak is both the most cold-hardy oak and the fastest growing. It may have gotten its name from the reddish color of its wood. An important timber species, the red oak is used, among other things, for flooring and furniture. Notice its smooth bark and bristle-tipped leaves. In a good year, a large red oak can produce over 10,000 acorns, large with shallow flat cups. Although squirrels prefer white oak acorns, they store many red oak acorns because the extra tannin ensures longer keeping. Leaves turn from brown to orange to crimson in autumn.



SARATOGA SPRINGS

20. Red Spruce (Picea rubens):

In its native habitat, further north, the red spruce is seldom seen growing without its constant companion, the balsam fir (see #26). Here, balsams grow on either side. Beginning in the early 1800s, most of the logs in Adirondack river drives were red spruce. An excellent wood for the sounding boards of musical instruments because of its resonant qualities, red spruce gets its name from the reddish cast of its bark. The first commercial chewing gum in America was made from red spruce sap. As with all spruces, the needles are 4-sided and can be rolled between your fingers. Crush a few. Can you detect a slight scent of orange-rind?





21. Black Oak (Quercus velutina):

(See #16 and #19.) Oaks confound the experts with their crossbreeding. The black oak (a member of the red oak group) challenges the tree enthusiast to discover what makes it unique. Leaves of the black oak closely resemble red oak, but are usually shorter, thicker, and have 5 to 7 lobes, whereas the red oak has approximately nine. Notice the pointy tips and "boxy" appearace of its leaf lobes. The acorns are smaller than those of the red oak. A yellow dye for cloth can be made from its yellow-orange inner bark.

22. Eastern Hemlock (Tsuga canadensis):

Although there are larger hemlocks in Congress Park, this tree is small enough so its needles and cones can be easily examined. Notice the two white lines underneath the flat stalked needles. Large numbers of hemlocks were cut down because their bark is a source of tannin, once used in the production of leather. Hemlock trees are not related to the herb that was used to poison Socrates. In fact, Adirondack lumbermen learned from Native Americans the benefits of tea made from its needles. When you go camping, try some.

Ktsi wliwini meziwi abaziak.

(Abenaki for "Great thanks to all Trees.")



Joe Bruchac, Abenaki storyteller

23. White Ash (Fraxinus americana):

(See #5.) White ash is the wood that sports fans know best. Hard, lightweight, and strong, it is used to make baseball bats, tennis rackets, oars, and tool handles. It was the Native Americans' choice for bows and arrows. Leaflets turn yellow or purple in autumn, and the bark has a tidy look; it's dark gray with a diamond-shaped pattern.

24. Ginkgo (Ginkgo biloba):

Darwin called the ginkgo a "living fossil." It dates back 200 million years. Dinosaurs munched on its seeds. There is a ginkgo in China that is more than 3,000 years old. In Asia, the ginkgo is a sacred tree, a bearer of hope, sometimes planted at the birth of a child. Enjoy the elegant fan-shaped leaves that turn yellow in autumn and then drop all at once. There are male and female ginkgoes. In fall, this female tree produces an edible seed, the size of an almond, that can be roasted and tastes somewhat like a pine nut. When it ripens, the nut's fleshy husk has a decidedly unpleasant odor that is almost impossible to remove from whatever it touches.

25. White Spruce (Picea glauca) (Skunk spruce, Cat spruce):

An evergreen, white spruce is especially valued in Canada for making furniture and paper. Canoe paddles, stringed instruments, and piano sounding boards are also made from its wood. Native Americans used the young pliable roots of white and black spruce as cords or twines. The endangered spruce grouse lives in spruce-fir forests in the northern Adirondacks and in winter eats only conifer needles, including spruce. Crush a few of the sharp, pointed 4-sided needles, which are sharper than red spruce (see #20). Notice their whitish cast.

I think that I shall never see
A poem lovely as a tree

Joyce Kilmer

26. Balsam Fir (Abies balsamea):

Can you detect an unpleasant skunk-like odor?

The needles of the balsam fir, an evergreen, are quite fragrant, as are the wood, bark, and sap.

Balsam trees can be mistaken for hemlocks because the needles of both are soft and have white lines underneath, but balsam needles are longer and don't grow on stalks. Balsam grows best in the cold north woods; Canada is home to millions. The foliage is an important food source for deer and moose. Next time you're in a northern wood, collect needles from a freshly fallen branch and make a balsam pillow for a friend.

27. Black Locust (Robinia pseudoacacia):

The white flowers of the black locust droop in clusters and fill the spring air with their sweet perfume. The wood is very hard and durable. Locust posts set into the ground will last 50 years or more and served as the corner posts for the colonists' first homes. Native Americans used the wood to make bows. Notice the deeply furrowed bark, and, in fall, the dark brown flat seedpods that appear only every 3 to 5 years.

MEET THE TREES IN CONGRESS PARK

28. Flowering Dogwood (Cornus florida):

Dogwood has been cherished in our country for many centuries. It caught the heart of Thomas Jefferson, who planted it at Monticello. Native Americans used the arrival of its spring flowers as a signal that crops could be planted and made a scarlet dye from its roots. The leaves have curved veins and turn crimson in fall. Bright scarlet berries stay on through the winter. Peeled twigs have been used as natural toothbrushes. The wood is extraordinarily hard and resistant to shock. It has been used, among other things, for making golf-club heads.

29. White Mulberry (Morus alba) (Silkworm Mulberry):

Our great-grandparents probably knew the sweet taste of ripe mulberries. Birds seek them out. Break a mulberry leafstalk to see its milky sap. White mulberry leaves are the favored diet of silkworms. The silk created by these insects became a major commodity 2,000 years ago in China, drawing traders from the West to the East. The "Silk Road" from China to Europe was 8,000 miles long. Distinguish the white mulberry from the native red mulberry by its shiny, hairless leaves.



National Arbor Day
is celebrated on the
last Friday of April.
Get a group together and
Plant a Tree!

30. European Linden (Tilia x europaea):

Both a European linden and an American linden (see #33) grow in Congress Park. Linden flowers are small, very fragrant, and hang in clusters. They can be steeped for a calming tea. Round nutlike fruits mature in late summer. Lindens' soft wood is ideal for sculpting.

The leaves, shaped like lopsided hearts and smaller than those of the American linden, turn yellow in fall. The wide canopy of the European linden provides welcome shade in summer.

31. Douglas Fir (Pseudotsuga menzieseii):

The Douglas fir is native to the western United States, where the 200-foot giants once covered thousands of acres. There, its branches provide food and shelter for spotted owls and other wildlife. The Douglas fir is not a true fir. True firs have cones that stand upright on the branch; Douglas fir cones hang down. Its red-brown cone has long spikes called *bracts* that project out from it. Douglas fir was once used for railroad ties and telephone poles and today is one of the most important timber species in North America. Its wood is used for everything from houses and boats to furniture and flagpoles.

s

32. Paper Birch (Betula papyrifera):

The paper birch has a long history but a short life for a tree--approximately the same as a human. Its bark is so white that it is visible even at night. Native Americans covered their canoe frames, made of Northern white cedar, with paper birch bark. The birch bark was sewn with roots of black spruce and caulked with resin from pine or balsam trees. The leaves of the paper birch, oval with sharp teeth along the edges, turn yellow in fall. Since bark protects a tree from bugs and disease, please don't peel off the curly strips from the paper birch.

33. American Linden (Tilia americana) (Basswood):

(See #30.) The American linden is often called the "bee-tree." In summer, bees produce a fine strongly flavored honey from the nectar of its flowers. The wood is light, soft, and used to make many things, including trunks, ladders, piano keys, and, before synthetic materials were widely used, artificial limbs. Native Americans made rope from the inner bark.

34. Sweetgum (Liquidambar styraciflua):

The sweetgum has several unique characteristics. Corky growths of bark along its branches and twigs give it the name "alligator tree." Crush one of its star-shaped leaves--which turn yellow in autumn--and catch a camphory whiff. The fruit of the sweetgum is a long-stalked drooping green ball composed of many individual fruits. The resinous sap under the bark used to be chewed like gum to ease a sore throat. Sweetgum is an important timber tree. Its wood is used for furniture, cabinetwork, and veneer.

35. Chinese Chestnut (Castanea mollissima):

The Chinese chestnut has dark green, shiny, toothed leaves, and, in summer, yellow catkins (flowers on a spike) appear. In fall, Chinese chestnuts produce large, spiny capsules that contain 2 to 3 edible glossy mahogany-colored nuts. The inside of the capsule is velvety. This tree was planted in 2001 to honor Billy Grey, a young man from Saratoga Springs who showed great courage in his short life.



EET THE TREES continued

36. Japanese Maple

(Acer palmatum):

The Japanese maple is an elegant tree with small delicate red-purple leaves that turn brilliant red in autumn. Although Japan was closed to foreigners in the early 1800s, a German eye surgeon was permitted to send Japanese maple specimens back to Europe in return for his good work. The Japanese maple was imported into this country in the late 1800s.

Boxelder (Acer negundo):

This member of the maple family has leaves with several leaflets, more like ash than maple. Well appreciated when towns were looking for fast growing trees, this tree gets its name from the boxes made from its wood and its resemblance to the elder, a shrub. The boxelder is a hero when water is scarce because it easily tolerates drought.



(Hamamelis virginiana):

While these 3 examples of witch hazel are shrubs (because of their small size), this hardy plant can grow to 25 feet in the wild and be classified as a tree. In the fall, its pods shoot their black seeds as far as 30 feet! An astringent made from an extract of the leaves, twigs, and bark is used externally to soothe mosquito bites and sore muscles. For centuries,

dowsers have used forked branches of the witch hazel to search for water. The leaves have a wavy edge and turn a brilliant yellow in autumn. Strangely enough, witch hazel flowers, which are yellow and ribbon-like, bloom in the fall.

39. Thornless Honeylocust

(Gleditsia triacanthos var. inermis):

Did you know that Lincoln gave the Gettysburg Address under a honeylocust tree that still lives today? Delicate foliage gives this tree a feathery appearance. In the wild, the honeylocust has enormous thorns on its trunk and branches. People once used these thorns as pins and nails. Many birds and mammals eat the sweet pulp of its seedpods, which grow up to 16 inches long. Scientists have developed a thornless, seedless honeylocust for planting in cities.



Austrian Pine

(Pinus nigra):

(native to our region) occur in bunches of two. But, where-as the red pine needle snaps when it is bent, the Austrian pine needle folds. The cone of the Austrian pine has small prickles on each scale; the red pine cone has none. Considered a hard pine, this species was the first of 217 million trees planted in the nation's dust bowl "shelterbelt" project. It thrives in very tough conditions.

The needles of both the Austrian pine (native to Europe) and the red pine

Copper Beech

(Fagus sylvatica "Riversii"):

A variety of European beech, the copper beech is better adapted to city conditions than the American beech. Both produce beechnuts, a favorite of many creatures. This tree has dark purple leaves with wavy edges. As it grows larger, it will develop a wide canopy and provide much shade. The first tree planted in Congress Park in 1998 by the young people of the Saratoga Mentoring Program, this tree honors the late Dr. Robert E. Rockwell.



Weeping Willow (Salix babylonica):

(See #14.) The weeping willow, imported from China, has a graceful drooping form. Its lance-shaped leaves are among the first to appear in spring and the last to disappear in fall. It is one of the easiest trees to grow from cuttings. From a fallen tree, cut a small branch that has many buds on it. Place the branch in water, watch roots grow, and then plant your tree!

Eastern Red Cedar

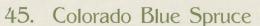
(Juniperus virginiana):

Native Americans used the needles and bark of the Eastern red cedar to make teas for many ailments. Cedar waxwing birds are especially fond of its soft-skinned cones, which are blue, look like berries, and grow only on female trees. The wood is quite aromatic and was formerly used to make pencils. Notice that

new-growth leaves are pointed, whereas the mature leaves are scale-like. Red cedar wood discourages moths and gives a fresh scent to clothes, hence the cedar chest.

Norway Spruce (Picea abies): 44.

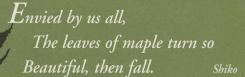
Although the Norway spruce had its origins in Russia and Siberia, it later became the dark evergreen of the Black Forest in Germany. Today, it makes up most of the forest in Norway. Widely planted in North America, its mature cones grow up to 6 inches long, the largest among spruces. Notice that the limbs swoop downward, and then rise up at the tips. The wood is used for cabinetry, pulpwood, and in making the sounding boards of violins.



(Picea pungens):

The Colorado blue spruce is the most commonly planted spruce in the eastern United States. It can grow over 100 feet tall in sheltered places, but in its native range, the central Rocky Mountains, it is twisted, tufted, and short. Spruce needles stay on a twig from 7 to 10 years. The blue-green needles of the Colorado blue spruce are probably the prickliest of any in Congress Park.





How does one tell a red oak from a white? Why did Darwin call the ginkgo a living fossil? With this brochure, you can find the answers—

Learn your leaves, hear a few tall tales, and even chew a white pine needle for a bit of extra Vitamin C. "Meet" 45 of Congress Park's species of trees, which have been identified and labeled by kids from the Saratoga Mentoring Program.

Use this map and tree guide to Saratoga Springs' Congress Park to help you find the enormous orange and green flowers of the tulip poplar, the long beanpods and large heartshaped leaves of the northern catalpa, the fragrant needles of the balsam fir, and the distinctive seeds of the American sycamore. Pause to ponder the ancient ginkgo seed, eaten

by dinosaurs. Admire the unique silhouette of the pin oak.

In many human cultures, trees have been regarded with reverence--as sacred symbols and a source of wisdom--perhaps because of their great size and long lives, and as markers of the seasons. At the same time, they have always served more practical functions, providing shelter, food, medicines, and myriad other necessities to people all over the world. Because trees serve people so well, they are also in danger from overcut-

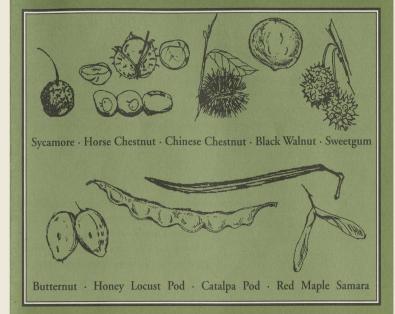


ting; other human activities create pollutants like acid rain that threaten the health of forests. As you "meet the trees" of Congress Park and learn of their many uses and healing qualities, let yourself feel their majesty and think of ways that you can help to preserve them for your children and their children after them.



Keep an eye out for the saplings the kids from the Saratoga Mentoring Program have planted as memorials and as symbols of hope and peace. They plan to plant 20 additional species by 2003. Look for metal botanical labels that adorn the trees described in this guide, which we hope will inspire you and arouse your curiosity. Enjoy your explorations. As Thoreau once said, "You can never have enough of Nature."

SEEDS



ACORNS



CONES

