University of Washington Botanic Gardens
Digital Tree Tours of the Washington Park Arboretum

Ancient Trees

University of Washington Botanic Gardens
Digital Tree Tours of the Washington Park Arboretum

Ancient Trees

Land Acknowledgement
We acknowledge and honor the Coast Salish peoples of this land, the land which touches the shared waters of all tribes and bands within the Suquamish, Tulalip and Muckleshoot nations. Since time immemorial, the Coast Salish peoples have been the original stewards of these lands. Colonization and its modern systems of oppression continue to disrupt their work. We hope that this acknowledgement serves as a first step in our commitment to authentic relationships with Native and Indigenous communities moving forward.

We are excited to share a brand new collection of digital tree tours for the Washington Park Arboretum! Developed by our AmeriCorps member, Thuy Luu, these tours feature some of the Arboretum's iconic collections and seasonal attractions. This new free public programming invites visitors to dive deeper into the stories of the Arboretum's tree collections and offers a variety of routes and themes to fit different schedules and interests.

A total of four tours were created with more anticipated to come:

- The **Ancient Trees** tour highlights five species that appear to be very closely identical to organisms only otherwise found in fossils.
- The **Champion Trees** tour includes seven of the Arboretum's many champion trees, which are the largest specimens of their kind in Washington State.
- The **Nature of Love** tour visits several plants and places that inspire love, sex and romance through their lore, form and reproduction.
- The **Spring Flowers** tours (short and extended version) showcase some of the Arboretum's best spots to observe spring blooms.

Google Maps were created for each tour with pinpointed specimens and locations. A visitor can use the tree tours website to take the tours which include specimen photographs and more detailed information on the identification of each species. They may also take the tours directly on the Google Maps phone app which better shows their location relative to the tour points.

The goal of creating these digital tours is to enhance the accessibility of the Arboretum's collections to our visitors. These tours are free to access and viewable on browsers for both desktop and mobile devices. They encourage people to explore the Arboretum at their own pace whether in-person or remotely.
We hope you get a chance to explore the Washington Park Arboretum with these digital tours. If you have an idea for another tour theme you would like to see, email us at urbhort@uw.edu.

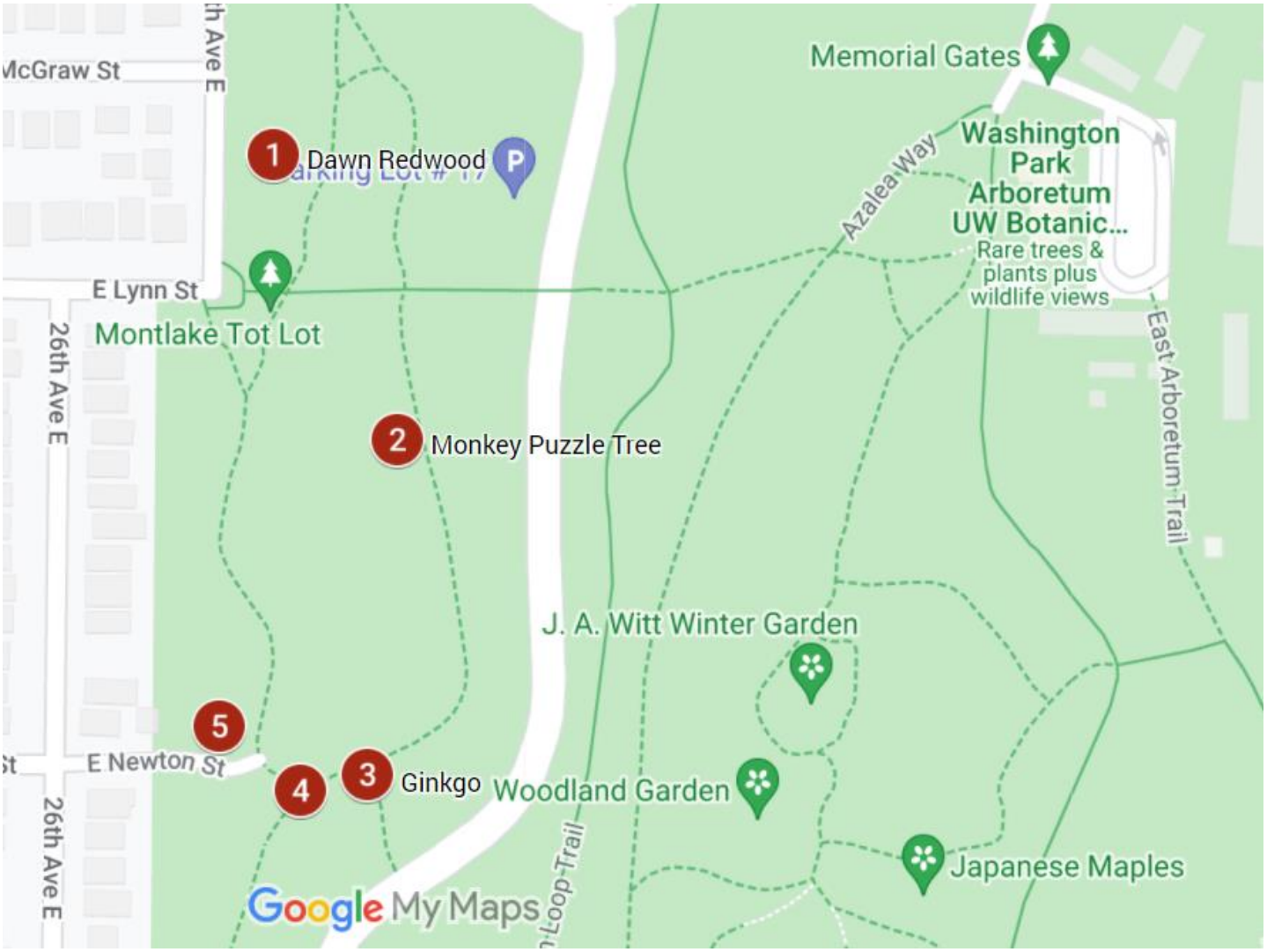
University of Washington
BOTANIC GARDENS

Ancient Trees

The focus of this tour is to spotlight ancient trees also known as 'living fossils' in the Washington Park Arboretum. Living fossils appear to be very closely identical to organisms only otherwise found in fossils. They are generally the only known or one of few species in their family. How amazing is it that these plants likely existed as you see them now, during the prehistoric?! Travel back in time with us on this tour!

Highlighted trees:

1. Dawn Redwood *(Metasequoia glyptostroboides)*
2. Monkey Puzzle Tree *(Araucaria araucana)*
3. Ginkgo *(Ginkgo biloba)*
4. Japanese Umbrella Pine *(Sciadopitys verticillata)*
5. Chinese Coffin Tree *(Taiwania cryptomerioides)*



Ancient Trees

1. Dawn Redwood

Historical Background: Dawn redwood *(Metasequoia glyptostroboides)* fossils have been discovered across the Northern Hemisphere. Trees of this genus are known from the late Cretaceous (145 to 65 million years ago) to the Miocene (23 to 5 million years ago), but no fossils have been dated later. In 1948, a small stand of unidentified trees was discovered in China and determined to be a new living species. In that same year, the Arnold Arboretum of Harvard University sent an expedition to collect and distribute seeds to various universities and arboreta worldwide.

Identifying Characteristics: Unlike the coniferous California redwood (Sequoia spp.), dawn redwoods are deciduous trees, shedding their leaves during the colder seasons. The leaves are fern-like and display a lighter green color than coniferous trees. The pollen cones appear on long spikes in early spring and only on trees growing in regions with hot summers. Older specimens form wide buttresses on the lower trunk. It is a fast-growing tree up to 150 feet tall and a 3 feet trunk diameter in cultivation with potential to grow to even greater heights. The bark is reddish brown to bright orange, fibrous, and becomes deeply fissured with age.

Other common names: Water Fir, Water Larch
Native Range: China
Location: Pinetum (Accession #: 3-86*A)

2. Monkey Puzzle Tree

Historical Background: The *Araucaria* genus is ancient and fossil records show various species existing during Pangea when the continents of Australia, Antarctica and South America were connected. Western Botanists first discovered the monkey puzzle tree (*Araucaria araucana*) in the 1780s and later learned that it has only two other living relatives. The seeds were a major part of Indigenous peoples' diet including the Mapuche and Araucaria peoples, who the tree and region are named after. It is the national tree of Chile and currently listed as an endangered species.

Identifying Characteristics: The monkey puzzle tree is an evergreen conifer that can grow to 130' tall. The leaves are thick, tough, extremely sharp on the ends, and grow whorled (arranged in a circle) on the branches. It is a dioecious species – with trees bearing either male or female cones. The female cones can release around 200 seeds which are edible and an extensively harvested crop today.

Other common names: monkey tail tree, Chilean pine, Pewen
Current Native Range: Central and Southern Chile and Southern Argentina
Location: Pinetum (accession #: 674-55*A)

3. Ginkgo

Historical Background: The *Ginkgo biloba* is a great example of a 'living fossil' because it is nearly identical to those found in fossil records! The earliest fossils date back 270 million years in the Permian period, the era of the dinosaurs. They were a formerly a widespread, abundant, and diverse group of trees, but disappeared from fossil records around 2.5 million years ago due to glaciation. If you're looking for a place to find ancient ginkgoes, the Burke Museum, located on the UW Seattle campus, displays fossilized leaves around 48 million years old. Another great spot is the Ginkgo Petrified Forest State Park in Vantage, Washington which contains over 50 extinct species. Only one species exists today and there are no known wild specimens outside of human cultivation. At the UW Botanic Gardens, we do care for our ginkgoes!

Identifying Characteristics: The leaves grow in clusters of 3-5 and have a distinctive fan-like shape with a wavy broad edge and notched top, dividing the leaf into two lobes. They are deciduous, light green in color, and turn bright yellow during autumn. This species is dioecious which means one tree contains male OR female parts and not both. The female trees produce a plum-like fruit that when crushed, produces a foul odor.

Other common names: golden fossil tree, maidenhair tree
Native Range: China
Location: Graham Visitors Center parking lot (accession #: 381-89*A)

4. Japanese Umbrella Pine

Historical Background: The Japanese umbrella pine *(Sciadopitys verticillata)* is the only species of its genus. How exclusive! Fossil records date back to the Triassic period (230 million years ago), making it the oldest of all surviving conifers. This tree was already in decline by the Cretaceous period as other ancient conifers became more widespread. Its prehistoric range was from Eurasia to North America. An ancient specimen at Jinguji Temple in Kyoto Prefecture was declared a National Natural Monument in Japan. This tree grows over 80 feet tall and historical records show that locals worshipped this tree since 1310!

Identifying Characteristics: The Japanese umbrella pine can reach 60-100 ft. tall. They have 3-6" long needles, which are soft, thick, and whorled on branches in a pattern resembling umbrella spines. They can also develop multiple trunks as they mature.

Other common names: Kōyamaki
Native Range: Japan
Location: southern edge of Pinetum (Accession #: 10-04*A)

5. Chinese Coffin Tree

Historical Background: The Chinese coffin tree *(Taiwania cryptomerioides)* is an evergreen conifer closely related to the California redwoods. It is the only species in its genus, *Taiwania.* Fossil records have shown it was scarcely distributed throughout North America and Eurasia from around 100 million years ago. Due to overharvesting, this tree is currently endangered in its native habitats.

Identifying Characteristics: These evergreens can grow up to 200 feet tall with trunk diameters around 12 feet. Their bark is red brown to grayish white in color. Leaves resemble needles or scales on more mature trees and their cones measure up to one inch.

Other common names: coffin tree, Taiwania
Native Range: eastern Asia
Location: southern edge of Pinetum (Accession #: 119-96*C)