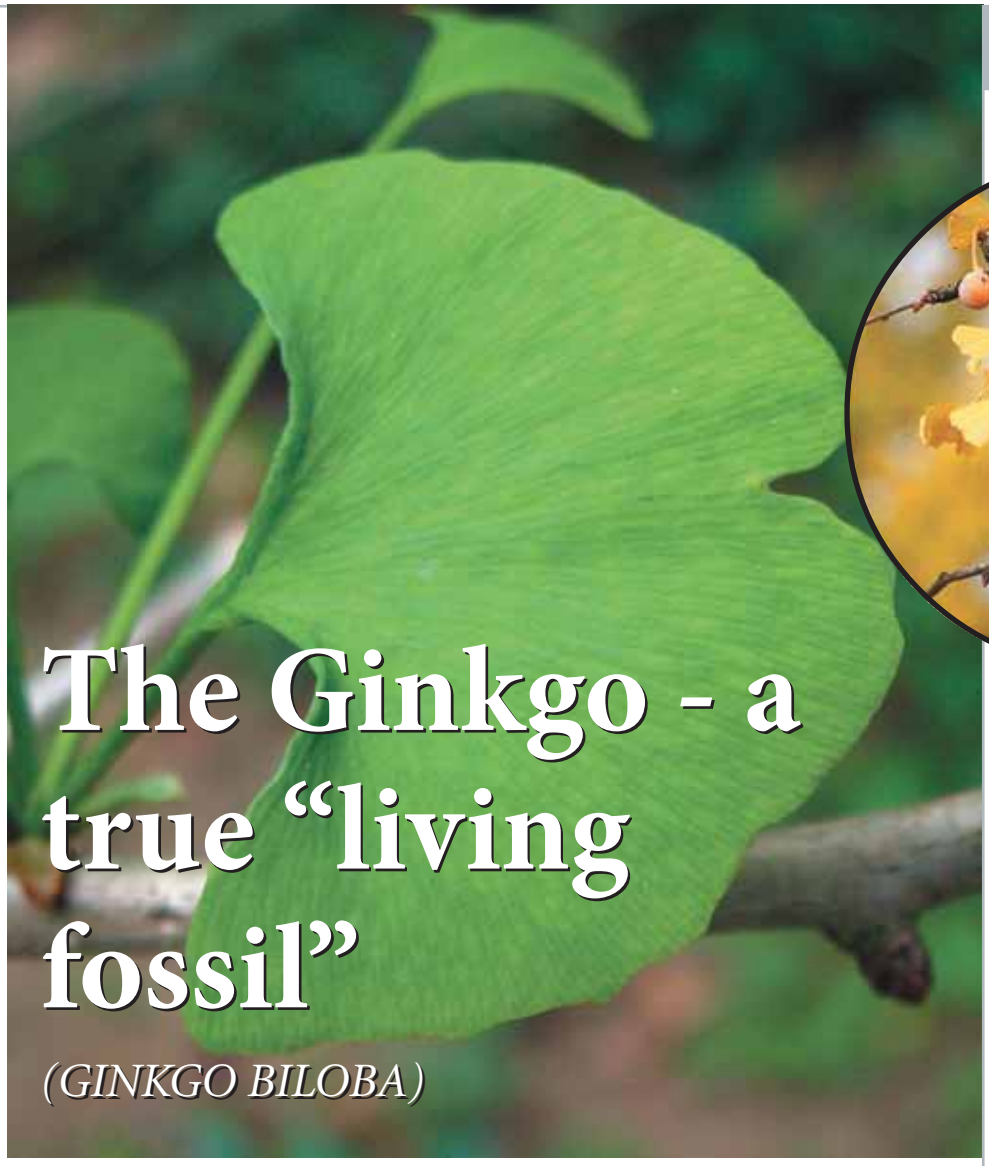

Photo courtesy OSU Extension

The Ginkgo - a true "living fossil"

(GINKGO BILOBA)

Jeri Chase, ODF Public Affairs Specialist

Dinosaurs roamed among them. Millennia ago, they ranged across what is now Asia, Europe, and North America. Today, they are one of the best trees to plant – for so many reasons. The ginkgo – the very picture of Darwin's "living fossil."

Ginkgo fossils – 19 species of them – have been found from as far back as the Permian period, over 270 million years ago. The extinctions of the dinosaurs and larger reptiles – the ginkgo seed dispersers – may have played a role in this species' downfall. They were all gone from North America seven million years ago; and from Europe about two and one-half million years ago.

Today, you can see fossilized evidence of these amazing trees at the Ginkgo Petrified Forest State Park at Vantage, Washington. Buried in lake bed sediments and then covered by lava flows for millions of years, 15-million-old logs of ginkgo beckii can now be seen in the basalt bluffs overlooking the Columbia River Gorge and Wanapum Lake.

Ginkgos were thought extinct from the planet until, with great excitement, German scientist and physician Engelbert Kaempfer discovered them in Japan in 1691. It turns out they had survived in China – where they were considered sacred – in the mountain monasteries, and temple and palace gardens, cultivated by Buddhist monks who then spread them to Japan.

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photo by David Scarboro courtesy of The Ginkgo Pages: http://www.xs4all.nl/~kwanten/

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Today's ginkgo has survived essentially unchanged since the Jurassic times. It may be the oldest living seed plant – a true wonder of our natural world.

Of the ginkgo, paleobotanist Sir Albert Seward said: "It appeals to the historic soul: We see it as an emblem of changelessness, a heritage from worlds too remote for our human intelligence to grasp, a tree which has in its keeping the secrets of the immeasurable past."

Losing its leaves in the fall, it is deciduous — but not a true broadleaf. Nor is it a conifer. Scientifically, and in many other ways, it's in a class all its own, the only link between the "lower" level of plants, the ferns, and the "higher" level, the conifers.

The trunk has light brown to brownish-grey bark that becomes deeply furrowed and highly ridged with age. Ginkgo leaves are fan-shaped, inspiring two more names for this beloved tree, one again from the Japanese: "I-cho", meaning "tree with leaves like a duck's foot." The second name this unique leaf shape inspires is the one that's the most commonly known and used in North America: the "maidenhair tree," for its resemblance to the maidenhair fern whose fronds have an almost identical shape.

Their amazing leaves dance and flutter with the slightest breeze. In spring, they unfurl as a delicate, soft, deepening green during summer, to a warm, emerald tone. But it is in the fall when the ginkgo really comes into its own – glistening in gold. Autumn leaf color may range from chartreuse to bright yellow to deep gold, depending on the tree. If these leaves happen to fall in a pool of water, they put on another striking show as they often don't lie flat on the water's surface, but bend and, at the slightest movement, mimic shimmering golden butterflies.

And when that show is over, ginkgos lose their leaves almost all at once – inspiring a former Poet Laureate for the United States to muse upon this unusual phenomenon. In the northwest, this often happens around Halloween. Very tidily, too. The leaves fall fast and form a golden carpet beneath the tree – easy for fall clean-up in a garden.

Ginkgos are tough – they have to be to have survived for millennia. That is just one of the many reasons they make such a great tree for our cities and communities. They can withstand air pollution, salt, snow, wind, hail, drought, heat, insects and disease, mismanagement, and even radiation. Four ginkgos in Hiroshima, Japan, withstood the atomic bombs at the end of World War II – thriving, even blooming – while everything about them was devastated in the blast.

Ginkgos are also believed to provide protection against fire; the bark and leaves are thought to secrete a fire-retardant sap. Many of these trees survived the great fire after the 1923 Tokyo earthquake – and a temple that was surrounded by ginkgos made it through the massive blaze unscathed.

They aren't all that picky about where they grow. If you are doing your own planting, sun is recommended, and about any soil will do. The only thing they don't like is poor drainage, or for their very deep roots to be overly wet.

They are slow-growing and long-living. There are ginkgos believed to be 2500-3000 years old – specimen trees that are over 170 feet in height. In most urban areas, though, ginkgos reach 40-100 feet tall and spread about 20-40 feet.

Young ginkgos are slender and sparsely branched – columnar. It is only as they age that their crown truly fills in, and that might not happen for 100 years or more. They broaden into a classic pyramidal shape.

There are male and female ginkgo trees – and sometimes, both genders can be found on the same tree. Females must be growing in the presence of a male tree to be pollinated.

Lacking dinosaurs, seed dispersal for the ginkgo biloba is now done by small mammals and birds.

Their flowers are insignificant, but that fruit! It is foul-smelling – resembling rancid butter and Limburger

Photo by Cynthia Orlando, ODF

This ginkgo tree near Oregon's state capitol building is a bigger, much taller specimen than you're likely to see in most neighborhoods. Note the unique, fan-shaped leaves, right.

A ginkgo tree near a temple survived the dropping of the 1945 atomic bomb on Hiroshima. The temple was destroyed. However, the staircase of the new temple was divided into left-and right hand sides, protecting the Ginkgo inside a U-shape.

cheese. For that reason, nowadays most people prefer to plant the male tree. Since it can be difficult to tell the male and female trees apart until maturity – at 20 years or so of age – most nursery varieties sold are males grafted onto root stock.

Some ginkgo history: pass the tea or sake

As befits a species that has been around for more than 270 million years, the ginkgo has a rich and legendary history.

Ginkgo seeds were used for medicinal purposes in both China and Japan. The seeds are also eaten at weddings and feasts – like the Chinese New Year – and, in Japan, during tea ceremonies. Today, grilled or broiled, ginkgo seeds are still often eaten in Japan when drinking sake.

From the 1950s until today, western medicine has been studying uses for the ginkgo. It is frequently prescribed in Europe, and used in North America and other countries as a herbal supplement for muscle pain, fatigue, for the treatment of Alzheimer's and for the cognitive symptoms of multiple sclerosis.

A ginkgo tree near a temple survived the dropping of the 1945 atomic bomb on Hiroshima. The temple was destoryed, but the staircase of the new temple was divided into left-and right hand sides, protecting the tree inside a U-shape. Engraved on the tree are the words "No more Hiroshima."

The ginkgo is popular in many different types of artwork from many Asian cultures - first seen on Chinese silk paintings by 400 AD, used on Japanese family crests since the Middle Ages, and still common in many logos and emblems in the Far East. It also was a popular motif during the Art Nouveau movement at the end of the 19th century in Europe, and has inspired poetry, from ancient Chinese and Japanese sages to the German poet, botanist, and philosopher Goethe.

There are many places in Oregon to see and enjoy these gems. Some grow in the Japanese Gardens of Lithia Park and elsewhere in Ashland, and many in Salem, Corvallis and Gresham. In Portland, they can be found at OMSI, near the Oregon Zoo, in the Japanese Gardens at Washington Park, and the newly-built Classical Chinese Garden in Chinatown.

Plant a "living fossil" today, and generations who will follow will thank you.

Photo by Cynthia Orlando, ODF