

## Oak trees in the parks of Timisoara

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**Abstract** Oak is a frequent tree species that can be found in the streets and green spaces of Timisoara. There are many parks in the town where you can find this species in greater or smaller numbers. Oak trees existed in the area of today Timisoara, before any green space was created here, because oaks formed a great part of the woods that existed here centuries ago. It is possible that some of the oldest oaks in the parks of Timisoara are remnants from those times. Though it is not used for rows on the sides of the streets, you can still find it in many places. Oak trees can be found mainly in parks and private domains, generally isolated, rarely in groups.

### Key words

Park, trees, Quercus, Oak, Timisoara

### *Quercus L. genus*

Most oaks are from temperate regions but surprisingly large number of the 200 or so evergreen, semi-evergreen and deciduous species come from tropical and subtropical regions of Mexico, Southeast Asia and even New Guinea. In Romania there are 7 indigenous species. Oaks range from shrubs 1m high to trees of 36m, and are mostly very long lived. Some species have been used for centuries for their hardwood timber. Their leaves, mostly lobed and leathery but in some species thin and lustrous, provide a dense canopy for a multitude of animals, birds and insects and make wonderful compost for acid-loving plants. The leaves of some deciduous oaks develop magnificent hues during the cooler month before they drop. Oaks can be divided into 'white oaks' and 'red oaks', the former with rounded leaf lobes and edible acorns that mature in one year, the latter with pointed leaf lobes and acorns that mature in 2 years and are too bitter to eat. The female flowers are insignificant and greenish, while the male flowers appear as yellow catkins in spring.

**Cultivation:** They thrive in deep, damp, well-drained soil. Some species like full sun; others prefer part-shade when young. They have extensive root systems and do not like to be transplanted. Prune only to remove damaged limbs. Otherwise easy to maintain, oaks are susceptible to oak-leaf miner in humid climates, as well as oak root fungus and aphids. Propagate from fresh seeds or by grafting in late winter just before new buds appear.

### *Quercus robur L. (Quercus pedunculata Ehrh.)*

*Common (European) Oak, English Oak, Pedunculate Oak*

Arguably the most famous of all oaks and with a life span of 300-500 years, this species has spreading, heavily leafed branches that provide good shade. Its

10cm long leaves are deciduous and remain dark green through autumn. It eventually reaches a height of 36m and trunks with a circumference of more than 21m have been recorded. It is one of Europe's most valuable timber trees. '*Fastigiata*' is grown for its narrow, upright habit, while '*Concordia*' is a rounded tree to 9m.

*Quercus borealis* Michx. (*Quercus rubra L.*) Northern red oak, originate in the eastern part of North America, used frequently for decorative purpose in parks and alleys, but in plantations too in the western part of Romania.

*Justitiei Park* (Park of Justice) is situated in the center of Timisoara, near the town hall, in an area surrounded by large boulevards and on one part by the river Bega. The park has nice old trees of different species, while the grassy areas are smaller in size. There are few monuments too. The total surface of the *Quercus robur* trees crowns is 1670m<sup>2</sup>. There are 12 individuals belonging to this species in the park. Their ages are between 10 and 80 years. Their height is between 16 and 18m. The diameter of the tree crowns is between 8 and 12m. The trees are situated mainly near Savinesti str. which is bordering the park and in the central parts of the green space.

*Copiilor (Childrens) Park* is situated in Timisoara on the bank of the river Bega near the center of the town. It has nice old trees of different species and used to have playgrounds for children. There are 64 *Quercus robur* trees in the park, aged between 30 and 100 years. There are some which are older than 100 years, being between the oldest trees in Timisoara. The height of the oak trees is between 12 and 24m. The total surface of the tree crowns is 4254 m<sup>2</sup>. The diameter of the crowns is 5 to 15m. The trees are located in different parts of the green space, mainly in the central part. It seems that the *Quercus* trees are much older than the park itself,

being originally part of some private domains or of some local woods. In the park exist 3 *Quercus imbricaria* Michx., aged between 80 and 100 years, 17m high, with a total tree crown surface of 140m<sup>2</sup>. There is 1 *Quercus palustris* Muench. too aged between 30 and 40 years, 13m high with a crown surface of 30m<sup>2</sup>. There is and 1 *Quercus borealis* too, 15-20 years old, 8m high, with a tree crown surface of 3m<sup>2</sup>.

*Centrul Civic (Civic Center) Park*, is situated in the center of Timisoara, behind Bega Store House. The green space appeared forty years ago, when the region was rebuilt after the demolition of an old building. There are 4 *Quercus robur* trees in the park, 1 *Quercus imbricaria*, and 3 *Quercus borealis*. The trees are 30 to 40 years old, 10 to 13m high. The total surface of the tree crowns is 410 m<sup>2</sup>. The diameter of the tree crowns is between 4 and 8m. The trees were planted all over the green space. When the park was created 40 years ago the tree species were mixed equally in the whole area. Civic Center Park is rather a transit area than a place where people come to walk in their free time.

*Alpinet Park* is situated on the bank of the river Bega, in central town. It is not a great green space, but it has a nice design, and contains many species of trees and shrubs. There are 5 *Quercus robur* individuals in the park, and 1 *Quercus borealis*. The total surface of the tree crowns is 350m<sup>2</sup>. The trees are aged between 50 and 100 years. The height of the trees is 15 to 25m. The diameter of the tree crowns is between 8 and 14 m. The trees are situated mainly in the central part of the park and near Bul. 16 decembrie, which is bordering the park.

*Central Park, (Parcul central)* is probably the oldest park in Timisoara, with a history of 150 years. It is situated in the center of the town near the orthodox cathedral. Its central part is geometrical and monumental, while the rest is more natural. There are statues, flower beds, fountains and pergolas in the park. 15 *Quercus robur* trees exist in the park, 1 *Quercus borealis*, and 2 *Quercus imbricaria*.

The total surface of the tree crowns is 1320m<sup>2</sup>. The trees are aged between 60 and 100 years. The height of the trees is 16 to 22m. The diameter of the tree crowns is between 10 and 12 m. The trees are situated mainly near Bul. politehnicii, and Bul. Republicii, which are bordering the park.

Oak trees can be found all over the town, on the side of lanes, in alleys, but mainly in parks. They are between the common species in the green spaces of Timisoara. *Quercus* trees represent a great ecological and esthetic value wherever they are located. The trees have a nice shape, and contribute a lot to the outlook of the areas where they are planted. In certain places *Quercus* trees are avoided because of their great height at maturity. Indeed oak trees can have impressive height at old age. In Timisoara exist very high old individuals. They have great esthetic value.

## Results and Discussions

*Quercus* is an important and valuable species, present in many green spaces of Timisoara. The trees contribute a lot to the outlook of certain urban areas. The most frequent species are: *Quercus robur*, *Q. rubra*, *Q. imbricaria*, *Q. palustris*. *Quercus petraea*, (sessile oak) which is an important indigenous species, can be rarely found in Timisoara. There are trees which are very old and have a great visual and ecological value, while others are younger. The species is present in all important parks of Timisoara, and can be found in some streets also. Their numbers and importance are variable. The individuals are sometimes concentrated near building or streets, where have been planted many years ago with a special purpose. Most oak trees in Timisoara, can be found only isolated and in small numbers. Oak trees are considered generally being nice, and their presence is appreciated especially in central parts of the town in green areas. The size of the tree at maturity, can represent a problem in certain situations. At maturity the trees belonging to this species get higher than most of the other surrounding trees, and this way become conspicuous. Still the present study showed that most old valuable *Quercus* are situated in Timisoara in a couple of places, especially in central parks, for example in Justitiei Park, and Copiilor Park.

## Conclusions

1. *Quercus* trees are present in nearly all the parks of Timisoara, in greater or smaller numbers, as well as on many streets. The species is present in the central parks of the town where many valuable plants have been planted during the years, some individuals being older than 100 years.
2. The trees have ages up to 120-150 years and according features, though some are young. Oak have great ecological and esthetic value. In forests the longevity of the trees is 1000 years, but in urban conditions is less. They have great ecologic and esthetic value.

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*Quercus rubra* L. (*Quercus borealis* Michx.)



*Quercus robur* L. (*Q. Pedunculata* Ehrh.)

