

Elm trees in Battersea Park

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The elm used to be one of the commonest trees in the English landscape, but millions have been lost since the 1960s to Dutch Elm Disease (DED). This disease is caused by a fungus which is spread by two species of elm-bark beetle (*Scolytus*). Trees which have been attacked and then cut down can still be found, as the roots are not killed and the tree can re-grow from suckers. The beetles ignore elm saplings and small elm trees, but often these regenerated trees suffer another attack of the disease when they reach a height of around 5 metres. Extensive research has taken place into identifying the elm species which are most resistant to DED and into the development of disease resistant hybrids.

The time to pick out elms from the rest of the trees in the Park is March and April when there are still no leaves. Elms flower and produce seed at this time. Large flower buds open into clusters of 20 or more miniature flowers. In the native species, these are red-tinted (yellow-green in the Siberian or White Elm). The flowers are wind-pollinated and the winged seeds ("samaras") are also dispersed by the wind. It is an advantage if this can all occur before leafy branches get in the way of dispersal.

Each individual flower produces pollen and seeds. The petals and sepals are just to protect these as they develop. They don't produce nectar or attract insects, so they are papery, almost transparent. The male stamens and anthers protrude above them (Fig. 1) and their pollen blows away, hopefully to another tree. Still inside the petals is the seed in its case and two fuzzy red stigmas protrude to catch that pollen (Fig. 2).

It's all over in a week or two. The flowers wither and in late-March and April the fertilized seeds expand out

from their protective petal sheath. The seed case expands becoming a fleshy green flattened oval structure (Fig. 2) which soon matures into a papery disc. In the centre is the seed itself, only 2-3mm long, while the rest forms the two wings joined down the middle. Spring winds can disperse these before the emerging leaves get in the way, but a very large number just fall below the parent tree (Fig. 3). Only the "English" elm variety of Small-leaved Elm (*Ulmus minor*, also known as *procera*) fails in all this. It is a clone in which the pollen is mostly sterile and it very rarely produces seeds. It makes up for that by growing tall relatively rapidly, which is why it was planted from cuttings in so many hedgerows.

Despite the damage done by DED, there are still a number of mature elms to be found in Battersea Park. However, identifying the species of individual trees is difficult, as the leaves visible at low level may not be a reliable indicator of the species.

The best known is probably the Weeping Wych Elm (*Ulmus glabra* var. *pendula*) on the river bank between the car park and Chelsea Gate (Figs 4&5). This has a fine show of seeds after it has flowered in the spring. There are smaller elms in the belt of trees on the river bank towards Chelsea Gate, possibly regenerated English Elms. There are two tall elms on the east and west sides of the depot between Albert Bridge Road and the car park south of Albert Gate, and a group of smaller elms to the south of the depot next to the big cherry laurel. There is a fine mature elm at the west end of the Winter Garden. This is probably a Huntingdon Elm (*Ulmus x hollandica* 'Vegeta') (Fig 6), judging by its asymmetric leaf bottoms and longer leaf stalks. Huntingdon Elms do have some resistance to DED and

this tree may not have been attacked. A smaller Huntingdon Elm can be seen a few metres east of the weeping Sophora, north-west of the athletics track at the south-east corner of the meadow area.

The elm beside Alexandra Gate (Fig. 7) (probably an English Elm or a Huntingdon Elm) is interesting as it has 12 stems – a typical sign of an elm which has regenerated after DED. The elm just north of Albert Gate is a similar tree, with 2 stems, and may also be a tree which has regenerated. There are smaller elms in the belt of trees to the west, south and east of the meadow area in the north-east corner of the Park, one of those on the east side being a tree with 8 stems.

Three of the elms in Battersea Park appear to be DED-resistant hybrids planted in the last 50 years.

- At the east end of South Carriage Drive, on the north side close to the barrier, is a tree which Owen Johnson (joint author of the *Collins Tree Guide*) has recently identified from a photo as being likely to be a 'Plantyn' Elm. 'Plantyn' is a Dutch hybrid elm cultivar which was developed in the course of research into DED-resistant types of elms. It first became available in 1973, and has moderate resistance to DED. Hybrid cultivars developed later have a greater degree of resistance. It has a profuse amount of samaras on it from mid-April.

- On the grass beside the athletics track to the west is a very nice elm which has been harder to identify - it has some features in common with a 'Plantyn' Elm, but the leaves are smaller than would be typical.

- To the east of the path running south of the Pear Tree Cafe beside the lake is a tree which Owen Johnson has identified (also from a photo) as being probably a 'Clusius' Elm which

is a Dutch hybrid elm cultivar that first became available in 1983 and has moderate resistance to DED.

The leaves on these three trees usually come out at the end of April or in early May, a little later than on the other elms in the Park.

On the east side of the path sloping down from Chelsea Gate towards the athletics track is a Siberian Elm (*Ulmus pumila*). This has pendulous branches, and is listed by the Tree Register as being the third tallest recorded tree of this species in the British Isles.

Related to the elm tree genus are the Zelkovas. South of the South Carriage Drive car park is a very large Caucasian Elm (*Zelkova carpinifolia*). There is a Japanese Elm (*Zelkova serrata*) on the west side of the path running south from the bowling green and another on the grass north of Putt in the Park. In October the leaves are an interesting mixture of green and brown.

To discuss elm trees, or other trees and shrubs in Battersea Park, contact batterseaparktrewatchers@btinternet.com

You can see more illustrations and a map showing approximate locations of the elms in Battersea Park at <https://www.fircone.org.uk/trees/locations/batterseaparkelmtrees.htm>



Fig 1. Newly opened elm flower clusters. At this stage, the stamens with their dark anthers are most prominent.



Fig 2. Fertilized flowers in the cluster developing into the winged seeds. Here, topped with the fuzzy red stigmas.



Fig 3. The clusters of winged seeds.



Fig 4. The weeping Wych Elm on the embankment.



Fig 5. Wych Elm leaves. They are large and have toothed margins with secondary smaller teeth on the larger ones.



Fig 6. Huntingdon Elm from the Winter Garden. Note the very asymmetric base of the leaf blade where it joins the stem.



Fig 7. The multi-stemmed, possibly regenerated Elm by the Alexandra Gate in April with large clusters of papery winged seeds.