

A REPORT ON THE OAKS OF BUCKINGHAM PALACE GARDEN

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Situated in the very heart of London, the Buckingham Palace garden is a relatively quiet haven within a vibrant metropolis. The 16 hectares are home to an amazing diversity of flora and fauna that has built up over the past 175 years or so when the garden took on its present form. Native wild plants brush leaves with the truly exotic, providing a wealth of interest and great pleasure to the eye. It is a sheltered garden that, although receiving some frosts, is not as badly affected by them as Greater London and the surrounding counties. The 'London Effect' creates an environment that advances the season by about 3 weeks compared to the surrounding countryside, and raises average temperatures by 1.5 degrees centigrade.

Overall the soil in the garden is a free draining topsoil overlying heavy clay that seems to benefit the deeper rooting plants. The average rainfall is about 600 mm per year, but is supplemented with irrigation during dry spells. Many areas have been 'made up' with imported soils and in a number of cases, builder's rubble provides pH readings that range from 4 on the lawns to over 8 on the Mound.

William Townsend Aiton designed and created the present garden in or around 1825. He was The King's gardener and was in charge of the gardens at a number of other Royal residences including Kew Gardens and Kensington Palace. W.T. Aiton was a latecomer in the field of design, but he was much influenced by his greater predecessors, William Kent (d.1748) and Lancelot Brown (d.1783). He successfully concealed the stark boundaries of the garden and certainly some of the fine trees to be found in the garden today are Aiton's planting. The construction work was carried on in to King William IV's reign, and Aiton was still working on it when Queen Victoria came to the Throne in 1837. In the case of many London Parks, early to mid-nineteenth century plantings initially thrived, but were later impacted by air pollution, as the Industrial Revolution, combined with coal fires, created adverse atmospheric conditions. This left only the toughest of trees and shrubs and replanting had to be carried out regularly. The garden relied for a great proportion of it's cover until the late 1970s on the English elm (*Ulmus procera*), but the population of this noble tree, like in so many other parts of the British Isles was devastated by Dutch Elm Disease. In the years up to 1980 the garden lost about 100 specimens, some of them quite magnificent and there were only two English elms remaining in 1979.

In many London parks, squares and large gardens the dominant tree is the London plane (*Platanus x hispanica*) and it is no different here. Nearly 100 mature or nearly mature specimens create a heavy canopy of shade for the lower plantings. Occasional other species are evident; common ash (*Fraxinus excelsior*), horse chestnut (*Aesculus hippocastanum*), common beech (*Fagus sylvatica*) and Indian chestnut (*Aesculus indica*), but there are surprisingly few old oaks. There are four Turkey oaks (*Quercus cerris*) that appear quite old, with the best of these near the Waterfall and along Constitution Hill. Unfortunately, there are no planting records before the mid 1950s so it is only possible to guess their age. Using Alan Mitchell's guide of an increase in girth of approximately 1" per year, I estimate the trees to be approximately 100 years old.

Since Queen Victoria's time, there has been a custom of planting trees in the garden to commemorate special occasions. The Prince of Wales, The Princes Royal, The Duke of York and The Earl of Wessex have planted four pedunculate oak (*Q. robur*) specimens from acorns raised in the year of their birth. These trees have taken their place amid other commemorative trees of various species. A hybrid oak (*Q. x libanerris* 'Rotterdam') was presented by the Council of the International Dendrology Society after their visit on 23 October 1987 and planted by Queen Elizabeth II on 11 November 1989. This tree had reached 7.1 m in 1998.

Tom Deighton, the Head Gardener from 1984 to 1990 planted, amongst many other trees, a selection of oaks that included the pin oak (*Q. palustris*) and red oak (*Q. rubra*), both of which provide a variable autumn colour display depending on the season. *Q. serrata* forms part of the dense screening along Grosvenor Place.

The first oak planted when I became Head Gardener in 1992 was the black jack oak (*Q. marilandica*). It was a poor specimen when it arrived, but perseverance has paid off to the point where it has now become well established attaining a height of 4m in 2001, with a crown spread of 2.5 m. This planting was soon followed by a California black oak (*Q. kelloggii*), given to the garden by the late John Bond, former Keeper at the Savill Gardens, Windsor. What wonderful autumn colour, the most vivid red, on a tree that is now 4.5m tall. Next followed a small specimen of the daimio oak (*Q. dentata*), with its large downy leaves that stay on all through the



Quercus marilandica, Black Jack Oak
Photo courtesy of Kevin Ward



Quercus dentata
Photo courtesy of Kevin Ward

winter. This tree was slow to establish but had achieved 4m by 2001. A small hybrid of the deer oak (*Q. sadleriana*) with English oak (*Q. robur*), given to the garden by Bill George of the Sir Harold Hillier Gardens is planted on the front edge of the Main Lawn near the lake. Both *Q. shumardii* and *Q. aliena* are planted above the Tennis Court and will, in time, replace two large and over-mature cherries growing nearby.

The evergreen oaks will soon play an important part in the winter landscape of the garden. These include a

Californian live oak or encina (*Q. agrifolia*) with its spiny leaves, which although only planted in 1994 was 5.5 m tall by 2001. Others include *Q. coccifera*, *Q. ilex* 'Fastigiata', *Q. x hispanica*, bamboo-leaved oak (*Q. myrsinifolia*), *Q. phillyreoides* with wonderful bronze coloured new foliage in the spring, and *Q. wislizeni*.

The swamp white oak (*Quercus bicolor*) is planted close to the Ice Well in the Mound. That there is a fine old specimen of this uncommon species in nearby Kensington Gardens measuring 22 m in height, with a girth of 249 cm, shows that it can flourish in Central London.

The garden to date contains about sixty seven different, established oak species, while many more are in pots, growing until large enough to plant out (see Table 1).

Recent developments to the collection have involved researching and obtaining smaller growing oaks, that will be less than 5 m in height when mature. These will provide an interesting under-storey for present plantings whilst again giving a reasonable indication of growth habit in Central London.

It is also important to place the collection in context with those of other Central London green spaces. As already mentioned Kensington Gardens have a good specimen of *Quercus bicolor* and in addition to that, four (two old and two young) *Quercus x hispanica* 'Lucombeana' trees, one young *Quercus frainetto*, two young and two mature *Quercus palustris* trees, an old *Quercus petraea* and two young *Quercus phellos*.

Hyde Park has a young *Quercus acutissima*, a young *Quercus aliena*, two young *Quercus coccinea* 'Splendens', four *Quercus x hispanica* 'Lucombeana's' of various forms, one *Quercus frainetto*, 25 mostly young *Quercus palustris* trees (with

one old specimen near the New Lodge), six young *Quercus phellos* and a *Quercus suber*. There is also a very rare survivor of Turner's original hybrid between *Quercus ilex* and *Quercus robur*, given the new cultivar name of *Quercus x turneri* 'Spencer Turner'.

The Chelsea Physic Garden has three *Q. coccifera*'s with one of those having achieved about 6 m on a good trunk, four *Q. ilex* trees, with two taller than 13 m, and a *Q. macrolepis* planted as a memorial tree by



Quercus agrifolia

Photo courtesy of Kevin Ward

the previous curator, Sue Minter. There is also a young *Q. myrsinifolia*, and a *Q. salicina* donated by Kew Gardens. Finally there is an old specimen of *Q. suber*, mentioned by Webster in 1920.

Conclusion

It might be considered that our reliance on the London plane is too high and that is one justification for planting a wider selection of species. London no longer suffers from the dreadful 'smogs' that once plagued both its inhabitants and its plant life. Other species now have a fighting chance and oaks must play a part in the future canopy of the garden for generations to come. Growing them successfully here may inspire their wider use throughout London's streets and green spaces. In years to come we hope to amass a fine and renowned collection, which should be a joy to anyone with an interest in oaks.

Table 1. *Quercus* in Buckingham Palace Garden

<i>Q. acerifolia</i> *	<i>Q. garryana</i> *	<i>Q. pacifica</i> ptd 2001
<i>Q. acutifolia</i> *	<i>Q. georgiana</i> hybrid ptd 2002	<i>Q. pagoda</i> ptd. 1998
<i>Q. acutissima</i>	<i>Q. glauca</i> *	<i>Q. palustris</i> ptd 1984, 1985, 1988 & 1990
<i>Q. acutissima</i> subsp. <i>chenii</i> ptd. 1993	<i>Q. gravesii</i> *	<i>Q. petraea</i> ptd. 1991
<i>Q. affinis</i> ptd 2003	<i>Q. grisea</i> ptd 2002	<i>Q. phillyreoides</i> ptd. 1991
<i>Q. agrifolia</i> ptd. 1994	<i>Q. hartwissiana</i> ptd. 2001	<i>Q. prinus</i> hybrid ptd. 1998
<i>Q. alba</i> ptd. 1998	<i>Q. x hastingsii</i> ptd 2002	<i>Q. prinoides</i> *
<i>Q. aliena</i> ptd 1994	<i>Q. x heterophylla</i> *	<i>Q. polymorpha</i> ptd 2002
<i>Q. aliena</i> var. <i>acutiserrata</i> ptd. 1995	<i>Q. x hickelii</i> *	<i>Q. 'Pondaim'</i> ptd 1998
<i>Q. alnifolia</i> ptd 2001	<i>Q. hypoleucooides</i> ptd 2003	<i>Q. prinoides</i> ptd 2002
<i>Q. x andegavensis</i> *	<i>Q. ilex</i>	<i>Q. pubescens</i> ptd. 1999
<i>Q. arkansana</i> ptd 2001	<i>Q. ilex</i> 'Fastigiata'	<i>Q. pungens</i> ptd 2001
<i>Q. austrina</i> ptd. 1998	<i>Q. ilicifolia</i> *	<i>Q. pyrenaica</i> ptd. 1998
<i>Q. x bebbiana</i> *	<i>Q. imbricaria</i> ptd. 1997	<i>Q. robur</i> ptd 1954, 1969, 1981, 1985 & 1987
<i>Q. berberidifolia</i> ptd. 2001	<i>Q. infectoria</i> ptd. 1997	<i>Q. robur</i> f. <i>fastigiata</i> ptd. 1996 & 2000
<i>Q. bicolor</i> ptd. 1999	<i>Q. kelloggii</i> ptd. 1994	<i>Q. robur</i> subsp. <i>imeritina</i> *
<i>Q. buckleyi</i> *	<i>Q. x kewensis</i> *	<i>Q. rubra</i> ptd 1991
<i>Q. x bushii</i> ptd 2002	<i>Q. laceyi</i> *	<i>Q. rugosa</i> ptd 2001
<i>Q. calliprinos</i> ptd 2002	<i>Q. laevis</i> *	<i>Q. x runcinata</i> *
<i>Q. canariensis</i> *	<i>Q. laurifolia</i> ptd. 1994	<i>Q. rhyssophylla</i> *
<i>Q. canbyi</i> *	<i>Q. leucotrichophora</i> ptd 2001	<i>Q. rhyssophylla</i> hybrid ptd. 1995
<i>Q. cerris</i>	<i>Q. x libanerris</i> 'Rotterdam' ptd. 1989	<i>Q. sadleriana</i> hybrid ptd 1997
<i>Q. chapmanii</i> ptd 2001	<i>Q. libani</i> ptd 2002	<i>Q. sartorii</i> *
<i>Q. chrysolepis</i> ptd. 1999	<i>Q. x ludoviciana</i> ptd. 1995	<i>Q. x saulii</i> ptd 2002
<i>Q. coccifera</i> ptd. 2000	<i>Q. lusitanica</i> *	<i>Q. schottkyana</i> ptd 2002
<i>Q. coccinea</i>	<i>Q. lyrata</i> *	<i>Q. schuettei</i> ptd 2000
<i>Q. conspersa</i> ptd. 2000	<i>Q. macranthera</i> *	<i>Q. shumardii</i> ptd 1994
<i>Q. crassifolia</i> ptd. 2001	<i>Q. macrocarpa</i> *	<i>Q. serrata</i> ptd. 1985 & 1995
<i>Q. crassipes</i> ptd 2002	<i>Q. macrolepis</i> ptd. 2001	<i>Q. stellata</i> *
<i>Q. x hispanica</i> 'Lucombeana' ptd. 1991	<i>Q. margaretae</i> *	<i>Q. suber</i> *
<i>Q. cuspidata</i> *	<i>Q. mexicana</i> ptd 2000	<i>Q. texana</i> ptd 1998 & 2002
<i>Q. dalechampii</i> *	<i>Q. michauxii</i> *	<i>Q. trojana</i> subsp. <i>trojana</i> ptd 2002
<i>Q. dentata</i> ptd. 1994	<i>Q. mongolica</i> subsp. <i>crispula</i> var. <i>grossesserata</i> *	<i>Q. turbinella</i> ptd 2002
	<i>Q. montana</i> *	<i>Q. undulata</i> *
<i>Q. dumosa</i> ptd 2002	<i>Q. muhlenbergii</i> ptd 2002	<i>Q. vaccinifolia</i> ptd 2001
<i>Q. durata</i> ptd. 2001 & 2002	<i>Q. myrsinifolia</i> ptd. 1997 & 1998	<i>Q. velutina</i> ptd 2002
<i>Q. ellipsoidalis</i> ptd. 2000	<i>Q. myrtifolia</i> ptd 2002	<i>Q. velutina</i> 'Rubrifolia' ptd. 1995
<i>Q. emoryi</i> *	<i>Q. nigra</i> ptd. 1993	<i>Q. virginiana</i> ptd 1994
<i>Q. engelmannii</i> ptd 2003	<i>Q. oblongifolia</i> *	<i>Q. x warei</i> *
<i>Q. fabri</i> ptd 2002	<i>Q. obtusata</i> *	<i>Q. wislizeni</i> ptd 1999
<i>Q. x fernaldii</i> *	<i>Q. oglethorpensis</i> *	<i>Q. wislizeni</i> var. <i>frutescens</i> *
<i>Q. gambelii</i> *	<i>Q. oxyodon</i> ptd 2002	

* growing in containers in the propagation area awaiting planting

Table 2. Oaks at Kensington Palace

<i>Q. arizonica</i> ptd 2003	<i>Q. ilex</i> ptd.1902
<i>Q. dentata</i> 'Pinnatifida' ptd 2002	<i>Q. kelloggii</i> ptd. 2000
<i>Q. douglasii</i> ptd. 2000	<i>Q. libani</i> ptd 2002
<i>Q. fabri</i> ptd 2002	<i>Q. x saulii</i> ptd 2002
<i>Q. faginea</i> ptd. 2000	<i>Q. schottkyana</i> ptd 2003
<i>Q. hemisphaerica</i> ptd 2003	<i>Q. texana</i> ptd 2002

Table 3. Oaks at Marlborough House

<i>Q. hartwissiana</i> hybrid ptd 2001	<i>Q. lobata</i> ptd 2000
<i>Q. x hispanica</i> 'Lucombeana'	<i>Q. robur</i> f. <i>pyramidalis</i> ptd 2001