Royal Borough of Kensington & Chelsea
Main Parks
Fungi Survey Report
2011

BY
Andy Overall

Royal Borough of Kensington & Chelsea
Main Parks
Fungi Survey Report
2011

Prepared by
Andy Overall

January 2011

Andy Overall
Flat 2
39 North End Road
Golders Green
London NW11 7RJ
020 8458 0652
07958 786 374
mush.room@fungitobewith.org

Contents

FIGURES

APPENDICES

Glossary

BAP – Biodiversity Action Plan

FRDBI – Fungal Records Database of Britain & Ireland

Executive Summary

This report was commissioned to give an appraisal of the importance of the main parks within the Royal Borough of Kensington and Chelsea in terms of its species richness and the relative scarcity and status of the species of larger fungi recorded therein.

The very first formal fungi survey of the main parks was carried out from April to December 2011, comprising two visits per month, rising to three visits during peak fruiting months such as October. Particular compartments, where relevant, were allocated for each visit. Identifications were carried out in the field and where necessary collections were made for identification by microscope. Certain areas of future potential within certain parks were identified and these are discussed in results. Specimens of rare and unusual species were collected, dried, written up and deposited as voucher specimens at the Fungal Herbarium, Royal Botanic Gardens, Kew.

A total of 271 species were identified from 437 records across all of the main parks. Most species were what you would expect from urban parks and the complex of habitats present within some of the sites covered in this survey, such as Holland Park. However the survey did reveal some endangered and very rare species, such as *Tricholomella constricta* from Holland Park. This and other rare species found are discussed and pictured (in part) in results of the applicable parks. The amenity grasslands and some of the woodland enclosures of the more complex parks were relatively poor for fungi and numbers of species from certain genera were low for habitat such as that of Holland Park. These are discussed in the results and recommendations are given to encourage a future presence.

Management of Holly, Rhododendron, Sycamore and Bramble is highlighted and discussed as a recommendation to encourage more fungi in certain areas of particular sites, as is the promotion of Silver Birch scrub. The practice of fungi harvesting should continue to be discouraged and appropriate BAPS should be attached to the rare and endangered fungi present in the park.

The report concludes that, apart from some poor results from key habitats of the larger and more complex parks, for the larger fungi, The Main Parks of the Royal Borough of Kensington & Chelsea still hold a fairly diverse range of fungal species represented by many genera of the major groups of larger fungi to be expected from the complex of habitats therein. The full potential of which I feel is not fully realised especially in the case of Holland Park. However, some species are of local or national importance and these should be given protection under applicable BAP schemes.

REPORT ON THE FUNGI OF THE MAIN PARKS WITHIN THE ROYAL BOROUGH OF KENSINGTON AND CHELSEA SURVEY CARRIED OUT FROM APRIL 22ND TO DECEMBER 15TH 2011.

BY ANDY OVERALL*
ASSISTED ON SITE BY KEIR MOTTRAM
Flat 2, 39 North End Road, Golders Green, London NW11 7RJ

1. Introduction & Historical context

The London Borough of Kensington and Chelsea is one of the least 'green' of the London Boroughs with only 2.8% of borough land representing open space. It is also one of the most densely populated boroughs in the country with more than 150,000 residents to the 2000 hectares that make up the borough. The geology of the borough is heavily influenced by the River Thames to the south, which runs as far north as the southern end of Holland Park. As a result of the influence from the Thames, the soils contain freer draining, river terrace gravels, which would have an influence on larger fungi, found in the parks with these soils. Moving further north in the borough, influence from The Thames wanes where Clay and along the western boundary, Brick earth is present. Avondale Park was once utilised for its Brick Earth. The whole borough is covered by the catchment of the Thames, Counters Creek and The Westbourne; the two main tributaries were culverted underground.

The original Saxon settlements that were Kensington and Chelsea remained distinct from Greater London until the massive development that took place during the Victorian age of the late nineteenth Century. The pattern of large-scale development that followed greatly influenced most of the open spaces that are present today. Before the late mid 19th century the north of the borough comprised of meadows and pasture and to the south, market gardens and orchards.

The Great Western Railway laid lines to the south of the Grand Union Canal and the West London Railway ran along the western boundary of the borough. Together with the Paddington Branch of the Grand Union Canal, which opened in 1814, and the surface Metropolitan and District lines during the 1860's and 80's, the main transport infrastructure was in place.

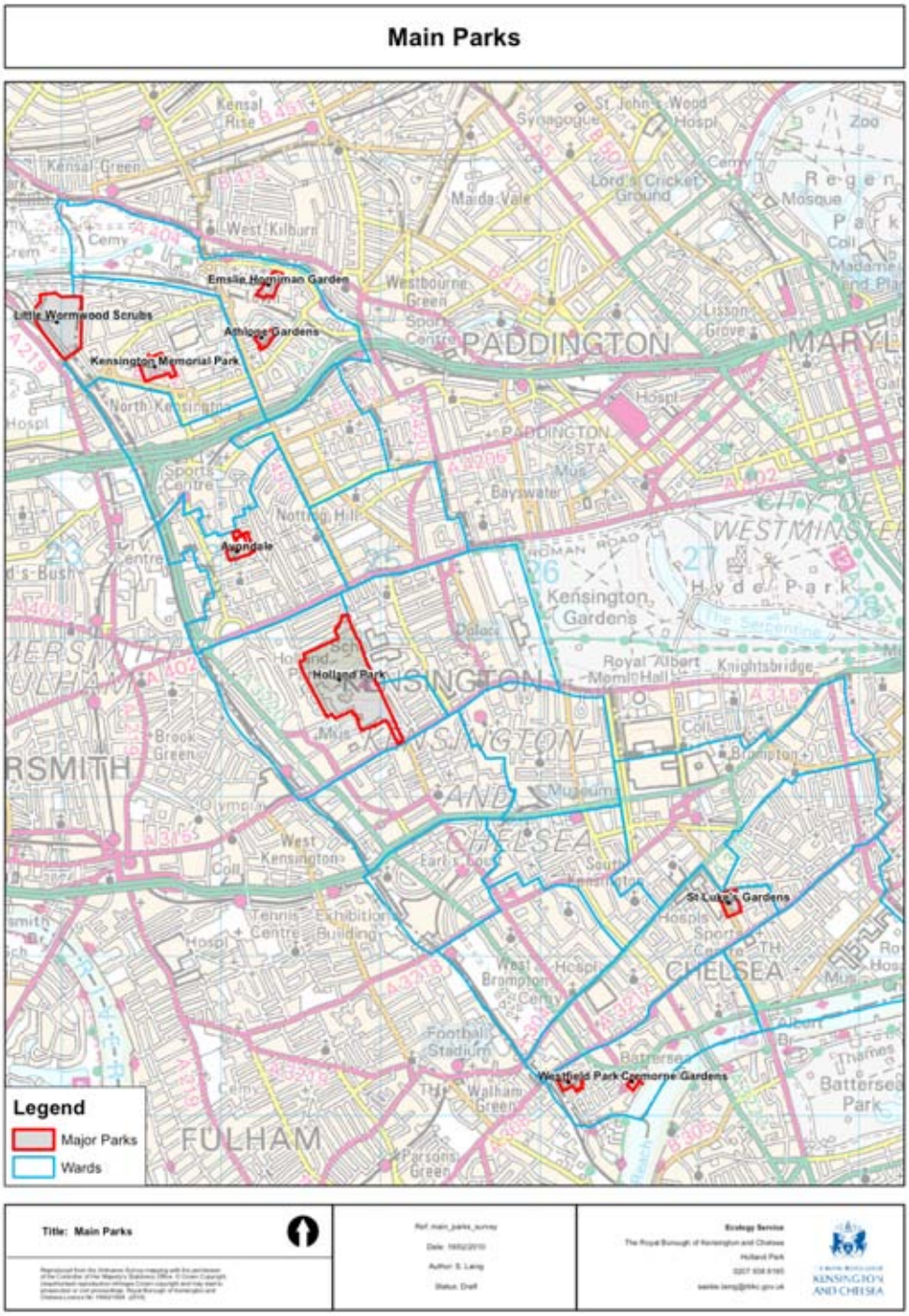
During the 1840's and 1850's large scale building development took place, the design of which incorporated, large garden squares, houses and streets.

Despite the low percentage of open green space left in the borough following such development it is considered by the London Ecology Unit 1994 to have a wide range and variety of habitats.

This survey concentrates on nine, of what are to be considered, main parks of the borough. These include, St Lukes Gardens, West Field Park and Cremorne Gardens to the south. To the north and north west of the borough the survey took in, Holland Park, Avondale Gardens, Kensington Memorial Park, Athlone Gardens, Emslie Horniman Garden and Little Wormwood Scrubs. The largest and more complex parks covered in the survey were those of Holland Park 21.74 hectares and Little Wormwood Scrubs Park at 7.2 ha. This report will address each park in turn, beginning with the largest and more complex, Holland Park and Little Wormwood Scrubs Park. A brief history is given in relation to their ecological composition and management which has and will have a direct bearing on the larger fungi now present or absent from the parks.

Non-formal records of fungi prior to this survey do exist and these will be included in the appendix to the report. I am also aware of other various reputable individuals making visits to some of the parks to record fungi. As a result of these previous visits some collections prior to this survey may be held at the Royal Botanic Gardens Kew at the Fungi Herbarium and as a consequence may appear on the FRDBI (Fungi Recording Database of Britain & Ireland) the National Fungi Database held by the British Mycological Society.

Fig 1. Map of the main parks covered in the survey



Holland Park- TQ247798

1.1 **The habitats that comprise Holland Park today, originate from the creation of Woodland Park upon open pasture, created during the 18th and 19th centuries. It is now considered, at 21.74 hectares, as being of one of the largest areas of semi-natural habitats in Central London. The 11.8 hectares that are the wooded areas of the park were considered 'wilderness' by inhabitants during the 17th century and more recently known as the Northern Woodlands are a result of planting by successive owners. These woodland enclosures of mainly non-native trees mixed with native trees seem to have endured a fair amount of neglect during its 393-year-old existence. However, the extent of the woodland makes it one of the largest areas of now semi-natural woodland in Central London. During the 1980's The Royal Borough of Kensington and Chelsea introduced a more ecological minded management, having had the park transferred to them from the London County Council who managed it from the 1950's.**
The natural history of the park, its management and uses, would all have had an influence/impact on the fungi present in the park today.

- **1624 - Holland House built for Sir Walter Cope the Earl of Holland**
- **1649 – Following the execution of the Earl of Holland, the house was confiscated and used by parliamentary leaders. Later restored by Lady Holland.**
- **1749 – 1850's – A stream of visitor/owners, which saw the property slowly deteriorate until purchased by the London County Council in 1952. In 1812 the Holland House librarian, Buonaiuti, first laid out the Dutch Garden.**
- **1876 – Lady Holland plants an avenue of Lime trees along the Acer Walk; many of the originals survive today.**
- **1952 – Woodland opened to the public by The London County Council**
- **1970's – Dutch Elm disease decimates the Elm and Sooty Bark Disease the Sycamore with a loss of over 2000 trees.**
- **1980's - Park taken over by the Royal Borough of Kensington and Chelsea who put into practice a more ecologically minded management plan.**
- **1987 – The Great Storm devastates the woodlands with the loss of more trees than during the 1970's disease of Elm and Sycamore.**
- **1990 – Another big storm takes it toll on the woodlands and other tree populated areas of the park take big losses.**
- **1990's – 2011 Now a very popular pubic surrounded by roads and London traffic bringing both heavy footfall and pollution both of which will adversely effect plants and fungi alike.**

1.2 Current Status

Holland Park comprises one of the largest areas of semi-natural habitats in Central London. Contained within its 21.74 hectares are 28 acres of woodland. In recognition of the importance of this habitat, the park has been designated as an Area of Metropolitan Importance, and a Site of Nature Conservation Importance. A Green Flag was also presented in 2001. The park is a 393-year-old public park within Central London and although periodically neglected, is largely unchanged. The park contains small areas of semi-improved neutral grassland, old and varied woodland, parkland trees and water bodies. Past, present and future surveys on the natural fabric of the park should eventually combine to reveal for some areas a statutory designation for the park.

2.0 The Fungal Modes & The Habitat

In order to obtain nutrients larger fungi are mycorrhizal, saprobic or parasitic in nature and the latter two modes are often combined with some species.

Mushrooms and toadstools can either be called fruitbodies or sporocarps. The main part of the fungus is within the given substrate and is called the mycelium. The mycelium, consisting of cottony, thread-like elements known as hyphae, absorbs nutrients to enable it to produce mushrooms and toadstools. There are three main ways in which fungi obtain nutrients.

Mycorrhizal fungi form a mutual symbiosis via the roots of various trees and shrubs with which they exchange nutrients. These are very important fungi that help maintain healthy trees and woodland. Most of our native trees have this association with fungi; naturalized trees such as Horse Chestnut and Sycamore do not. There are various forms of mycorrhiza that exist and the larger fungi are ectomycorrhizal.

Saprobic fungi feed on dead and dying matter, helping to break down matter and release nutrients back into the soil.

Parasitic fungi take and give nothing in return. Some of these fungi are very destructive, such as *Armillaria mellea* - Honey Fungus or *Meripilus giganteus* the Giant Polypore; the former is parasitic and then saprobic on its host.

Holland Park forms part of a geological ridge that lies on the southwest side of Campden Hill upon London Clay with deposits of flood plain gravel left by the River Thames. Terrace gravels over London Clay form thin, gravely, free draining soils throughout most of the park. With the main entrance to the park from Kensington High Street it extends northward nearly as far as Holland Park Avenue, Notting Hill.

It is rare to have woodland upon river terrace soils unless planted, as is the case of the 28 wooded acres (11.33 hectares) of Holland Park, which are the result of successive planting by the various owners over the centuries. Much of this planting is ornamental and forms quite extensive, non-native woodland enclosures. Not all non-native tree or shrub species are mycorrhizal; for instance trees such as Sycamore and Horse Chestnut are not but they do attract saprobic and parasitic fungi.

Species of mycorrhizal fungi were low in number throughout the wooded enclosures and in many of the wooded enclosures, where much of the under storey was dominated by Holly, other shrubs or bramble, ground dwelling saprobic fungi were rarely recorded.

Where the enclosures have more light and space, such as the Lord Holland Enclosure, Wildlife Enclosure and Oak Enclosure one would expect saprobic, mycorrhizal and parasitic species on soil, leaf litter and wood. Where the enclosures are predominantly native, with Pendunculate Oak, *Quercus robur*, and Beech, *Fagus sylvatica*, being the dominant tree species, one would expect to see various associated mycorrhizal fungi.

The shrub layer is mainly suckering Elm, young Sycamore and Holly, with Bramble, Elder and Dog Rose also commonly occurring. Ground flora, where allowed to flourish with little disturbance or low light, is variable and species such as bluebell

(Hyacinthoides non-scripta), nettle, ivy (Hedera helix), wood avens (Geum urbanum), red campion (Silene dioica), lords and ladies (Arum maculatum) are widespread.

The Wildlife Enclosure has areas that include more open vegetation where semi-improved neutral grassland (some sown with wild flower mixtures) grades into tall herb. Yorkshire fog (Holcus lanatus), cocks foot (Dactylis glomerata), annual meadow grass (Poa annua) and perennial rye grass (Lolium perenne) mix with greater birds foot trefoil (Lotus pedunculatus), tufted vetch (Vicia cracca), meadow vetchling (Lathyrus pratensis), musk mallow (Malva moschata), hedge bedstraw (Galium mollugo) and ox-eye daisy (Leucantheumum vulgare). Additionally this enclosure includes pignut (Conopodium majus), upright hedge parsley (Torilis japonica), stone parsley (Sison amomum) and three clumps of wood millet (Milium effusum). The diversity of plant species here, combined with the more open habitat, will in time attract various types of fungi of differing modes.

The water features within the park, two of which can be found in the Wildlife Enclosure, one within the Lords Holland Enclosure and one within the Kyoto Garden, hold promise for fungi associating with water loving shrubs such as Willow, Alder and Silver Birch. Three species of Salix occur around the ponds in the Wildlife Enclosure and even though no fungi were recorded associating with them on this occasion it is likely that there will be in the future. The small pond in the Lord Holland's Enclosure and that of the Kyoto Garden had no Salix, Alnus or Betula nearby I would therefore advocate that they are introduced.

The remaining ten hectares comprise of amenity lawns and formal gardens surrounding the remains of Holland House, with larger areas of amenity grassland to the south of the park. Small lawns within enclosures such as The West Lawn and Kyoto Garden containing short grass with mosses and Oak and Birch trees hold potential for mycorrhizal fungi. The North Lawn in comparison is a larger, more heavily utilised amenity lawn resulting in a degree of soil compaction so it would therefore not offer a similar potential. However, some of these grassy areas do have potential for various types of fungi. The far southern corner, opposite the tennis courts is one of these areas, as are the formal gardens and shrub borders in relation to the compost and mulch used upon them, which does encourage certain species of fungi.

Areas where Holly predominates will inhibit fungi through lack of light and moisture so therefore needs to be thinned out. Bramble clearance from within woodland enclosures would encourage fungi, as would the removal of Sycamore.

3.0 Method

The survey was carried out between April and December 2011, therefore providing a good time period that covered the changing environmental conditions. Holland Park was grouped together with four other smaller parks for the survey and where possible two visits per month were allocated for the months in which fewer fungi were to be expected and three visits during October and November during which more fungi were expected to appear.

Allocating certain compartments of Holland Park, for particular visits, I felt was the best way to approach the survey, in this way all of the compartments were covered during the entirety of the survey.
Repeated visits to particular compartments were made at certain points during the year, as they had been identified as more fungi friendly on previous visits. Compartments were covered with each of us taking a separate route and noting and collecting as we went.

When possible, species were named in the field and if not possible, collections were made for identification by microscope. Status and nomenclature criteria used in the accompanying spreadsheet of species recorded, was based upon recent literature listed in the bibliography at the end of the report, in particular the *Checklist of British and Irish Basidiomycota* by Legon and Henrici (2005, published by Kew Gardens). Frequency was given as in the pre-mentioned publication, as frequent, infrequent, occasional, widespread, rarely reported, rare or Red Data Listed. In some instances these entries were modified with qualifiers such as locally common.

GPS readings were taken for each rare or endangered species for their exact location. Specimens of the rare and unusual species were collected, dried, written up and deposited as voucher specimens at the Fungal Herbarium, Royal Botanic Gardens, Kew.

Fig 1&2. <u>Biological Recording Map of compartments used for survey</u>

4.0 Areas of particular note & future potential

4.1. Compartments 01b & 04 Wildlife Enclosure and The Lord Holland's Enclosure containing deciduous broadleaved and mixed open woodland

Throughout most of the survey, certain woodland enclosures proved to be among the most fungi diverse areas on site. Not because of the condition of most of these wooded enclosures but more to do with the large area that they command within the park and their age.
This situation is best reflected by the habitat of enclosures such as the Lord Holland Enclosure and the Wildlife Enclosure. These enclosures, although generally lacking in a good age range and diversity of tree species, do contain a number of mature Beech, Oak and Poplar trees as well as a good amount of standing and fallen deadwood left in situ.

The Wildlife Enclosure has open grassy areas and a water feature with various species of Salix, which are good mycorrhizal partners for various fungi genera such as *Cortinarius*, *Inocybe*, *Xerocomellus* and others. There are also mosses among the shorter grasses that are surrounded by trees and all this and the fact that the area has some protection from adverse weather conditions by being enclosed, encourages fungi.

The Lord Holland and Wildlife Enclosure's both highlighted the importance of dead standing or fallen wood with lignicolous species such as *Rhodotus palmatus* on elm wood and *Hapalopilus nidulans* on beech. *Rhodocybe gemina* was also a good record, found on soil at the western end of the enclosure, beneath large Poplar trees.

However, certain factors do need addressing within these enclosures and the other woodland enclosures, one major factor being the amount of light inhibiting holly that is currently present. This needs to be thinned out to allow more space and light for some pioneering species such as Birch, Alder and Willow. This will also allow Beech and Oak seedlings to take hold which will in turn help increase the mycorrhizal fungi present, of which there were very few recorded within these wooded enclosures. Also the large amount of rubbish left by the public in some enclosures, also needs to be removed to help prevent leaching of chemicals into the soil.

4.2. Sub-Parcels 16E & 16b – West Lawn

This small area of semi-unimproved grassland of short turf and mosses proved to be quite interesting and is certainly worth keeping an eye on for future records of fungi. The large Oak tree at the south west edge of the lawn has a number of mycorrhizal species associating with it, such as, *Russula subfoetens, Russula ionochlora, Inocybe rimosa* and *Xerocomellus engelii* among others. On the outside edge of this enclosure, directly beneath the wooden fencing, the nationally rare species *Tricholomella constricta* was recorded, making this the first record for the county of Middlesex.

4.3. Kyoto Garden-sub-parcels 14b,c & d

The sub-parcels 14b, c & d of semi-unimproved grassland of this enclosure were most interesting, especially that of 14d where a couple of lone Birch trees reside close to the fence line, among short mossy grass. Mycorrhizal species such as, *Amanita crocea, Amanita muscaria, Lactarius glycioisimus* and *Chalciporus piperatus* are all associating with these Birch trees. The one and only Waxcap recorded from the survey that of *Hygrocybe conica* was recorded among the short mossy grass of 14d.

4.4. Woodland Edge and Shrub Borders

This is an important habitat within the park, as many species will fruit on the edges of woodland paths and shrub borders. A number of important species were recorded from the park in exactly this situation. The already mentioned *Tricholomella constricta* and *Lepista irina*, another new record for Middlesex and the infrequent yet alien species *Ramaria Curta* were all recorded from this type of habitat, the former between The Lord Holland's and Beech Enclosure's, and the former from compartment 17c.

4.5. All Compartments containing Amenity Grassland

Although not a prime habitat for larger fungi, due to the heavy footfall and compaction of such areas, some of the less used areas such as the far southern corner, opposite the tennis court are viable. It is often the edges of such areas where fungi can be found.

4.6. All compartments containing fallen or standing dead wood

This type of habitat is crucial for a succession of various types of dead wood specialists across many genera. The park does contain areas of both of these habitats and some good records were made such as *Rhodotus palmatus* on dead fallen Elm in the Wildlife Enclosure and *Inonotus cuiticularis*, *Pleurotus dryinus* and *Pholiota aurivella* on the same dead fallen Beech wood in the Lord Holland's Enclosure. However, I would encourage more dead wood including more to be left out in the rough areas of the amenity grasslands if possible.

4.7. Compartments containing open water, ponds.

This can be an important habitat for fungi in that many ponds will have Alder or Willow nearby, with which certain fungi will associate. This needs to be encouraged, in the areas within the park where this habitat exists, such as within the Wildlife Enclosure and Lord Holland's. The Wildlife Enclosure has Willow planted around the ponds and holds future potential as a result. Lord Holland's pond needs clearing around the edges and Willow, Birch and Alder planted in the space provided.

5.0 Results and species of particular note.

A total of 144 species from 275 records were identified from the park between April and December 2011. Most of the genera, spread across many different families, were what you would expect from an area such as Holland Park and the complex of habitats therein. However, certain genera and species therein were conspicuously missing from the survey.
Larger species from the family *Boletaceae* were not present and the smaller *Boletus* species of the genus *Xerocomellus* weren't particularly well represented either. Species from the genus Cortinarius were not recorded at all during the survey. This is unusual as this genus and the subsequent sub-genera are widely considered to contain the most species worldwide. In this respect it was surprising not to see any species from this genus at all. Closely related genus Inocybe was represented by only one species.

All of these genera are mycorrhizal in nature and therefore important and beneficial for the trees and shrubs of the park. Other important mycorrhizal genera such as *Russula*, *Lactarius* and *Amanita* were represented by a small number of species from each. These were recorded from more open areas such as the West Lawn or sections of the Kyoto Garden, never far from their tree host. The woodland enclosures were bereft of mycorrhizal fungi and in many cases, any larger fungi. I believe this is as a result of the density of Holly, other shrubbery and bramble. There really isn't enough space with open areas for mycorrhizal fungi within the woodland enclosures to thrive. The outside edges of these enclosures are more likely to provide a more conducive habitat for mycorrhizal and saprobic fungi. Deadwood is left in situ and in some enclosures, particularly The Wildlife Enclosure and The Lord Holland's Enclosure, there are some good records of saprobic and parasitic fungi. With less Holly and other growth

restricting, moisture draining shrubs and ground flora a more diverse habitat has been created and this has attracted fungi.

The water features are areas that hold future potential for certain mycorrhizal fungi. The pond within the Wildlife Enclosure which has Willow planted around it, will play host to various types of fungi, even though none were recorded during this survey. The pond at the edge of the Lord Holland's Enclosure wasn't easy to access but no fungi were found in nearby. Shrubs such as, Willow, Alder and Birch would thrive here, if only allowed the space, the fungi would follow.

The small green spaces within enclosures that may be called amenity grassland, such as the West Lawn and The Kyoto Garden proved to be good habitat and it was in these areas that the majority of the mycorrhizal fungi were recorded. The big Oak tree inside the West Lawn enclosure has many different species associating with it from genera such as *Russula*, *Xerocomellus* and *Inocybe*. These types of habitat, where you have short grass mixed with mosses directly next to host trees such as Oaks or Beech, are excellent for these mycorrhizal fungi and more should be created throughout the park. The far southern corner of amenity grassland, opposite the tennis courts at the bottom of the sports pitch, also provided a few interesting saprobic species, such as *Psilocybe crobula*.

The composted flowerbeds and mulched shrub and tree areas around the park, turned out to be an important substrate. The Dutch Garden when composted early in June, provided species such as *Agaricus bisporus* and *Panaeolus cinctulus*. The small mulched area on the south edge of the yard that is compartment 19k, had *Geastrum striatum*, *Agaricus arvensis* and the infrequent and poorly understood, introduced species of coral fungus *Ramaria curta*, recorded from it. In the car park, on the mulch of compartment 17c, a large number of the infrequent, *Agaricus subperonotus* were recorded.

Most of the species recorded during the survey are frequent, common & widespread across England and are what you would expect from the various types of habitat that comprise Holland Park. Some very rare and nationally important species were recorded from the park during the survey. Some of these are covered below.

5.1 *Tricholomella constricta* TQ24726 79712– Beneath West Lawn Fence – Comp 16b

This is a species that is rarely recorded although widespread in its distribution. It is described as fruiting on soil among grass in woodland scrub or woodland edges with either deciduous or conifer trees. There are 133 records currently held in the FRDBI* this record constitutes a first for Middlesex.

Fig. 3 – *Tricholomella constricta* – © Andy Overall

5.2 *Lepista irina* -TQ 24686 79870 – Scattered trees outside Lord Holland's and Beech Enclosure between paths

This is a species that is only occasionally recorded, as is reflected by the relatively small number of 143 records since 1943 on the FRDBI. This record constitutes the first for Middlesex. It is a species known to occur on soil in deciduous woodland often with Beech or Ash. Both of these trees were nearby to this record.

Fig.4 *Lepista irina* © *Andy* Overall

5.3 *Ramaria curta* – On mulched shrub border 19k

This is an introduced species to this country first recorded in 1852 yet consequently only thirteen collections have been made to date. This is the first record for Middlesex.

Fig. 5 *Ramaria curta* - © Andy Overall

5.4 *Rhodotus palmatus* – Dead Fallen Elm-Wildlife Enclosure 01b

This is not a rare species with currently 777 records in the FRDBI. Surprisingly only 36 are for Middlesex, but it is a species that is restricted to dead Elm wood. This species was once thought to be endangered through the loss of Elm to the Dutch Elm disease, but as plenty of elm currently manages to reach the grand old age of 10-15 years old before succumbing to the disease this leaves enough dead elm wood for this species to seemingly prevail.

5.5 *Hapalopilus nidulans* – Dead Fallen Beech-Wildlife Enclosure 01b

This is also not a rare species with 606 widespread records in the FRDBI, only seven of which are from Middlesex. It occurs on various dead hardwoods, at Holland Park this was recorded from Beech. Even though widely recorded I find it to be a species that is not often seen and therefore feel it is worth a special mention here.

5.6 *Rhodocybe gemina* - TQ 24540 79876 – Wildlife Enclosure - 01b

This is a saprobic species that is rarely recorded yet widespread across the UK. There are currently only 82 records held in the FRDBI for Great Britain and Ireland.

Fig. 6 *Rhodocybe gemina* - ©Andy Overall

5.7 *Psilocybe crobula* – Tennis Court shrub border - Compartment 20c
1st record for Middlesex

This record highlights the importance of this habitat at Holland Park and the other main parks of RBKC for certain types of fungi. This record/collection was found among grassy edges on woodchip debris of the shrub border, on the west side of the tennis courts. This is the first record for Middlesex and only the 178th record for the FRDBI.

Fig. 7 *Psilocybe crobula* ©Andy Overall

5.8 *Lycoperdon molle* – Kyoto garden – On Soil among short grass

1st Record for Middlesex.

This little puffball resembles the wood inhabiting species *Lycoperdon pyriforme* however this species fruits directly on soil like most other puffballs. Although this species is regarded as fairly common and widespread, out of the 536 records that exist on the FRDBI this is the 1st record for Middlesex. It is known to fruit on soil which is often calcareous, in deciduous or mixed deciduous and coniferous woodland.

Fig 8. *Lycoperdon molle* ©Andy Overall

5.9 *Rigidoporus ulmarius* – Western end of Wildlife Garden on fallen dead Poplar

This large polypore, bracket fungus is parasitic and then saprobic. It was particularly common on large trunks and stumps of Elm during the Dutch Elm epidemic but it has now been recorded from a number of different trees including Sycamore, Horse Chestnut, Plane Trees, Poplar and Robinia. It is an occasional but widespread species in England with a bias for Southern England. It is possibly on the decrease.

5.10 *Pleurotus dryinus* – Lord Holland's Enclosure – On fallen Beech

This is an occasional yet widespread species in England occurring on a multitude of different deciduous broadleaved trees. It is closely related to the common Oyster Mushroom yet this species is the only one among the genus that has a veil covering the gills when immature which is a good ID characteristic as is the velutinous cap surface.

Fig 9 *Pleurotus dryinus* ©Andy Overall

5.11 *Agaricus subperonotus* – Car Park

This chunky member of the Agaricus genus was fruiting in fairly large numbers in composted soil beneath an evergreen tree and other shrubs in the car park. It is an uncommon species with just 132 records on the FRDBI and there are only two for Middlesex and this makes the third record.

Fig. 10 *Agaricus subperonotus* ©Andy Overall

5.12 *Lycoperdon excipuliformis* – Wildlife Gardens

The Pestle Puffball is a common and widespread species recorded from humic soil in areas of woodland and sometimes on short turf. Here it was fruiting in woodland at the northern end of the Wildlife Garden. I believe it is under recorded in Middlesex, as only eight records exist on the FRDBI whilst there are over 2000 for the Great Britain and Ireland. Easily recognised by the large pestle shaped fruit bodies

5.13 *Inonotus cuticularis* – Lord Holland Enclosure

A species that fruits in tiers from scars on deciduous broadleaved trees, especially Beech but also known from Plane trees. There are only 230 odd records of this species throughout Great Britain and Ireland and only one for Middlesex but I suspect that this is incorrect and believe it's also most likely under recorded. A good record nonetheless.

5.14 *Geastrum striatum* – Compartment 19J - On shrub border with Yard

This is one of the small Earthstars that have an extended neck and a beak on the top of its spore sac from which it disperses spores. Not such a common species in Middlesex with only four among 300 or so records in the FRDBI, it is occasional and widespread, most often found with Conifer but also with deciduous trees in parks, gardens, dunes and cemeteries.

Fig. 11 *Geastrum striatum* ©Andy Overall

5.15 *Chlorophyllum brunneum* – Oak Enclosure

Only very recently has this species been separated from being a variation of the closely related *C. rhacodes*. DNA molecular analysis was carried out in the early noughties and three species were identified, *C. rhacodes, C, brunneum* and *C. oliverii*. Microscopically they are very similar with only slight differences in the shape of various cells. However, macroscopically an emarginate, swollen base (shown in picture below) and a single annulus (ring) around the stem are seen as good identifying characteristics. It is recorded from growing in mulch and manured flowerbeds; this collection was fruiting from deep leaf litter.

Fig 12. *Chlorophyllum brunneum* ©Andy Overall

5.16 *Psathyrella cernua* – At base of large Poplar on northern corner of the Arboretum – 1st Record for Middlesex.

This is a very difficult genus when identifying to species, there is very little literature available. I arrived at my determination for this species by examining microscopic details and using the key in Funga Nordica published in 2009. This is a rare species in Great Britain and Ireland with only 22 records in the FRDBI. This is the 1st record for Middlesex. It is a species that favours decayed wood usually on Beech but it has been recorded as with this record, on Poplar.

Fig. 13 *Psathyrella cernua* ©Andy Overall

6.0 Recommendations

6.1. Holly, Sycamore, Rhododendron & Bramble of the woodland enclosures

These very invasive shrubs and ground flora are largely well managed in the park and are by and large restricted to the woodland enclosures. Where they do exist, however, they will inhibit fungi as they omit light and moisture. Holly is the worst culprit at Holland Park, within the woodland enclosures, however; a check also needs to be kept on the spread of Rhododendron. Sycamore trees need thinning out in the woodland enclosures to help create space and light for native trees to prosper. Sycamore is not a mycorrhizal partner. Clearance of bramble and debris in the woodland enclosures would encourage fungi and any species that are present with the mature Poplar, Beech and Oaks, to fruit.

6.2 West Lawn & Kyoto Garden Lawns

The amenity lawns within The Kyoto Garden and the West Lawn need to be managed as they are at present. No chemicals should be used upon these areas, as they are important habitats for mycorrhizal fungi within the park. The Peacocks that inhabit these lawns at times, may well be helping to graze the grass, this should be encouraged if that is the case. As for the droppings from the birds, the outcome of the leaching of this into the soil, upon the fungi present, is more uncertain.

6.3 The Arboretum

This fairly large, fenced area of grassland and scattered trees if grazed or cut may well provide some interesting species of larger fungi. The Quercus ilex, Fagus, and Corylus are all mycorrhizal so I would therefore expect some of the associated genera. If the grass were kept short this would encourage fungi here. Also a few Birch trees planted within the enclosure would help also.

6.4 The Oak Enclosure

This is a promising enclosure that provided some good records late on in the year. If this enclosure was cleared of not all but most of the bramble I believe it would be an even better habitat for fungi. Although all of the species recorded here were saprobic on leaf litter and dead wood, which should be left as is, in situ, with more bramble clearance I think this would help with mycorrhizal species.

6.5 Water Features

Where these exist and lack the following it would be advantageous for appropriate mycorrhizal shrubs such as Salix, Alnus and Betula to be planted to encourage associated fungi. Clearing around the edges of the pond within the Lord Holland's Enclosure and planting of these shrubs here would be recommended.

6.6 Amenity Grassland

Where appropriate, along the edges or in less obvious areas of the larger expanses of amenity grassland and to the south of the house, it would be advantageous to plant some Betula as this will encourage mycorrhizal species into that area.

6.7 Biodiversity Action Plans

Where certain species from the park have been identified as vulnerable or endangered with reference to data from the current UK Fungi Draft Red Data List, local or where appropriate, national Biodiversity Action Plans should be applied. This will afford further protection for the species.

6.8 Harvesting of edible fungi

Although the harvesting of fungi by the general public is very difficult to police by the park constabulary and rangers they should continue to discourage the practice.

7.0 Conclusion

In conclusion, Holland Park appears to be well fairly well represented by most genera of the major groups of fungi to be expected from the complex of habitats therein. Larger species of the genus *Boletus* were missing and there were low numbers of the smaller species of *Xerocomellus*. Genera *Cortinarius* and *Tricholoma* were also conspicuous by their absence; habitat type and condition would go a long way in answering why they were not picked up on this survey be it non-native woodland or lack of light. Within the majority of the woodland enclosures, Holly is omitting light and draining moisture. Bramble and Ivy also pose a similar situation. This inhibits species of mycorrhizal and saprobic genera from fruiting in the woodland areas that have the appropriate host trees. These woodland enclosures need to be opened up more by clearing dominant holly, other shrubs and dominating ground flora to help bring about a habitat that will encourage fungi of all types to flourish within.

Particular areas of the park can be identified as being more 'fungi friendly' saprobic and parasitic fungi, were more prolific in the Wildlife Enclosure and The Lord Holland Enclosures where more space and light, were evident. The more open areas with scattered trees and short grass with mosses, such as the West Lawn and the Kyoto Garden, are areas where different mycorrhizal and saprobic species, from different genera, were recorded. The more humus layered Oak enclosure and rough tall grass of the Arboretum Enclosure provided some records of mainly saprobic species but, I believe with some management of bramble in the Oak enc. and grass cutting in the Arboretum that this will also encourage mycorrhizal, saprobic and parasitic fungi.

Some of the large areas of amenity grassland to the south of the house provided some records. The far south-western corner in compartment 20c with its few scattered trees had species such as Coprinellus micaceus, Lycoperdon pratense and Chlorophyllum oliverii and the small shrub border surrounding the tennis courts revealed Psilocybe crobula, Conocybe tenera and Agrocybe putaminum. The planting of Silver Birch alongside the sports pitch and other 'rough grass' areas of 20c would help to encourage mycorrhizal fungi. The North Lawn in comparison to the West Lawn is a heavily used amenity area that is very unlikely to produce any larger fungi. The boundary of this lawn could pose a different prospect though and should be looked at with potential for having more mycorrhizal host trees, such as Poplar and Birch.

Water features, such as the pond within The Lord Holland's Enclosure, need clearing around the edges and planting with Willow and Alder this will encourage mycorrhizal, saprobic and parasitic fungi. The ponds within the Wildlife enclosure, which already have Willow planted around them, need the ground flora managed to ensure that the area doesn't become to overgrown. This will allow associating fungi to flourish.

Standing and fallen deadwood provided some good records such as *Rhodotus palmatus* on Elm, and *Hapalopilus nidulans, Pleurotus dryinus* and *Inonotus cuticularis* and other species from Beech. Most of these records came from the Wildlife and Lord Holland's Enclosure. Recommended action in this case would be to encourage more standing and fallen deadwood, and wherever possible, out in the open areas of the park.

Collectively, these habitats, which constitute Holland Park, hold a fairly diverse range of fungal species across many genera of the major fungal groups, the full potential of which I feel is not fully realised and could be improved upon. In a number of cases some species are of local or national importance, which should be noted and afforded some protection under the applicable BAP schemes.

8.0 **Little Wormwood Scrubs Park – TQ 229 819**

Little Wormwood Scrubs Park is an open public space of 7.2 hectares, which is in the main situated in the northern part of the Royal Borough of Hammersmith and Fulham. Only the eastern margin lies within RBKC. The northern end of the park is bordered by the North Pole Channel Tunnel Rail Link Depot with Delgado Gardens bordering the southern end. Mitre Way borders the western side and Sutton Way, which is public housing, the eastern side. The park is 125 years old.

- **1886 - The park was acquired by the Metropolitan Board of Works from the Bishops of London, who utilised the area for grazing. The M.B.W. developed the park as a public open space and is managed today by the Royal Borough of Kensington and Chelsea, who as with other main parks in the borough have concentrated on a more ecological approach.**

8.1 Current Status and Habitat

Little Wormwood Scrubs Park is a site of local importance for nature conservation. This designation is based upon the large areas of locally uncommon semi-improved neutral grassland and scrub present in the park. Importantly the park fits together with a group of local areas that together comprise a wildlife habitat important to the borough. The park lies entirely upon London Clay.

The neutral grassland contains a good range of grasses and a small amount of young bramble and hawthorn. A number of ant nests are also evident here.

The western and northern margins of the park comprise of more scrub and semi-mature trees, shrubs such as Crack Willow *Salix fragilis*, White Willow *Salix alba* and Goat willow *Salix caprea* all of which are mycorrhizal. There are also stands of Hawthorn *Crataegus monogyna* and Grey Poplar trees *Populus x canescens*. The Eastern side has a small line of willow, behind which runs a shrubs border. Slightly west of the shrub border and willow trees are a few large trees, a mature Quercus cerris, Turkey Oak and Fraxinus excelsior. There is also a Common Ash, surrounded by a large, dead, fallen tree cut into sections. The central area of the park is dominated to the south by amenity grassland and to the north by the semi-improved neutral grassland and scrub.

8.2 Method

As with Holland Park, Little Wormwood Scrubs Park was grouped together with other parks for surveying, in this case with, Emslie Horniman Garden, Athlone Gardens and Kensington Memorial Park. They were together allocated one of the two days per month allowed for the survey as a whole. Where the visits rose to three days during Oct and Nov the time was shared evenly between the two groups.

Due to the relatively small size of LWS I was able to cover the whole park in a visit without feeling any areas were overlooked or rushed. So it was unnecessary to allocate compartments for particular concentration. Each of us took a separate route through the park noting and collecting as we went.

When possible, species were named in the field, if not possible, collections were made for identification by microscope. Status and nomenclature criteria used in the accompanying spreadsheet of species recorded, was based upon recent literature listed in bibliography at the end of the report, in particular the *checklist of British and Irish Basidiomycota* by Legon and Henrici (2005, published by Kew Gardens). Frequency was given as in the pre-mentioned publication, as frequent, infrequent, occasional, widespread, rarely reported,

rare or Red Data Listed. In some instances these entries were modified with qualifiers such as locally common. GPS readings were taken for each rare and unusual species for their exact location. Specimens of the rare and unusual species were collected, dried, written up and deposited as voucher specimens at the Fungal Herbarium, Royal Botanic Gardens, Kew.

Fig 14 – Outline map of Little Wormwood Scrubs Park

8.3 Areas of particular note & future potential

8.4. Southern Border – Delgado Gardens

The amenity grassland and shrub border area that backs directly onto the Delgado Gardens proved quite interesting for various saprobic fungi species. On the grass itself, common species *Panaeolus fimicola* and *Coprinellus micaceus* occurred in fairly large numbers and there was also a huge display of *Tubaria furfuracea*. *Pholiota gummosa* also put in an appearance which denotes that roots of one of large trees in vicinity, Fraxinus or Quercus must be fairly shallow or there is a stump or buried wood beneath the grass upon which this species is feeding and fruiting. Among the shrubs, on the woodchip mulch various species of *Conocybe* appeared mostly that of *Conocybe tenera* but other species occurred such as *C. vexans, C. rickenii* and *C. apala*, the latter two on the grassy edge. A very nice record from the Delgado Gardens shrub border was that of the uncommon Inocybe perlata, which was most probably mycorrhizal with the nearby Turkey Oak, *Quercus cerris*. A surprising record form the shrub bed near the Ash tree was that of *Hygrophoropsis rufa*, a species that until very recently was considered by most authors as a variation of the more common *H. aurantiaca*. My determination follows the treatment given in Funga Nordica 2009. Most of the species mentioned here are saprobic so they will be transient in nature, disappearing and reappearing with the newly laid mulchy substrate. However the mycorrhizal Inocybe will most likely re-occur.

8.5. Western Border - Willow and Poplar Trees

The grey poplar trees on the western side of the park, situated on the eastern side of the footpath provided a couple of important records highlighting the importance of their presence. *Leccinum duriusculum*, a member of the Boletus family, forms a mycorrhizal association with various species of Poplar as it has with the Poplar here in the park. It is not a common species, although fairly widespread, as it is only found with Poplar. On the small, dead branches of the same Poplar, the under recorded, former Red Data Listed species, *Schizophyllum amplum* was also recorded. Even though not picked up on this survey I would expect to see other Poplar associated species in this area, such as *Agrocybe cylindracea*. Slightly south of the Poplar over on the west side of the footpath, directly next to the children's play area there is a small stand of Willow, a small number of *Inocybe salicis* and the sweet smelling *Hebeloma saccharioliens* were recorded, both mycorrhizal with the Willow.

8.6. Northern Border West & East

The northern end of the park is primarily rather dense and scrubby with small populations of Hawthorn *Crataegus monogyna,* White Willow *Salix alba*, Dog Rose *Rosa canina agg.*, Blackthorn *Prunus spinosa* and Hazel *Corylus avellana* with the odd Scots Pine *Pinus sylvestris*. Further east and where this boundary borders with the North Pole Depot there is a line of Aspen *Populus tremula* in front of which Bramble dominates. This is an important area for dead wood specialists as there is plenty of dead woody debris all along this section, including a wood chipped path with dead wood borders where the ground rises eastwards. This was born out with recordings of the uncommon *Coriolopsis gallica* and *Rhodocybe gemina*.

8.7. Eastern Boundary bordering with Sutton Way

Large willow trees form a line heading from north to south upon a fairly wide expanse of amenity grassland. This could in time provide good habitat for mycorrhizal species associating with these willow trees. Directly behind the willow trees runs a shrub border, which is quite wild in nature and has large areas of nettle in places. However, a lot of different, wood loving and other saprobic species were recorded along this strip and in fact provided the highest number of species during one visit including a large number of the rarely reported *Pluteus cinereofusca*.

To the west of the eastern boundary on the edge of the unimproved grassland there are a few mature trees, a Turkey Oak and an Ash surrounded by fallen, dead and decorticated sections of trunk. This could be promising habitat for mycorrhizal, saprobic and parasitic fungi alike. A few saprobic and parasitic fungi were recorded for here such as the common heartwood specialist *Ganoderma australe*.

8.8. Unimproved Neutral Grassland and Scrub

This large area was practically devoid of fungi, which I found very surprising. I have surveyed similar sites, yet with acid grassland as opposed to neutral, so that, together with heavy dog use, maybe a contributing factor here. The fringes of the neutral grassland where the large trees come into play are areas where fungi were recorded but amongst the scrub and areas without trees very few fungi were recorded. It may be that species will and do occur at times but very little was picked up on this survey.

8.9. Amenity Grassland

Due to heavy use and compaction these particular types of habitat rarely work for fungi. Species such as *Marasmius oreades* and *Panaeolus fimicola* may inhabit this type of habitat but none of these were discovered on this survey. The western corner of this area has some fairly mature Willow trees which I think will have mycorrhizal fungi associated with them and one of the trees does have the associated and common *Daedaleopsis confragosa* growing upon it.

9 Results And Species of Particular Note

A total of 57 species from 77 records were identified from the Little Wormwood Scrubs Park between April and December 2011. Most of the genera, spread across a number of families, were what you would expect from an area that is principally a public park with ecological value. The one area that especially brings an ecological value to the park, was that of the semi-improved neutral grassland and scrub but it turned out be practically devoid of fungi. I found this surprising as I have surveyed similar sites but with acid grassland, which had plenty of fungi associated with it, so it could be that it is neutral grassland. The most interesting areas of the park are of course the boundaries, as the bulk of the park is taken by either amenity or neutral grassland and scrub. The north-western edge of the grassland scrub, running alongside the public path are a small line of Grey Poplar trees and these provided a couple of important records, which includes those of *Leccinum duriusculum* and *Schizophyllum amplum*. The latter, once Red Data Listed, now is more likely to be under recorded, but this is a good record nonetheless. The former is a member of the generally mycorrhizal family, Boletus and this is a species that is restricted to various species of Poplar. It is interesting that the first time I recorded this species in London was from Kensal Green Cemetery with exactly the same tree species.
Just west and slightly south of the poplar trees, there is a small group of young willow trees; these have mycorrhizal species associating with them, *Inocybe salicis* and *Hebeloma sacchariolens*. Both of these areas are worth monitoring during the summer and autumn months for the above and other species that may occur.
Some interesting dead wood specialists occurred in the northwestern area of scrub woodland, notably the rarely reported *Coriolopsis gallica*. This was found on dead, decorticated branches, which unfortunately didn't help with the identification of the tree species could not be identified. Also in this area, just beneath the Scots Pine, another rarely reported species, was that of *Rhodocybe gemina* which is not often found with Scots Pine and is often on soil high in nitrogen. As this is a popular area for dog walkers the nitrogen levels are most likely a result of dog toilet habits. A fair amount of rubbish had also accumulated in this area.
On the Eastern boundary of the park there is a line of large Willow trees surrounded by improved grassland. These may well produce some mycorrhizal species at some point together with willow-associated saprobes. The shrub bed running behind these willow trees proved fairly productive for saprobic fungi. This included *Pluteus cinereofuscus* which is a respectable record and rarely reported species, although it is widespread. This narrow strip of shrubs held the most species recorded during one visit. However, all of the species recorded are all transient and woodchip-mulch loving species so it will come and go with this particular substrate as it ages or is renewed. It is worth clearing rubbish from this area and strimming the Nettles.

Most of the species recorded during the survey are frequent, common and widespread across England and what you would expect from the types of habitat that comprise Little Wormwood Scrubs Park. Some rare and nationally important species were recorded from the park during the survey. Some of these are covered below.

9.1 *Coriolopsis gallica* – TQ 229 821 - On dead, fallen decorticated wood in the dense scrub area in the North West corner. 1st record for Middlesex

This collection was made from the scrubby shrub area in the northwest corner of the park. It was fruiting upon a decorticated fallen log of dead wood, unsure of which species of tree it might have been. It is usually found on Ash but has been known to fruit on Beech, Oak and Elm. This is a species once regarded as a red data species and it appeared on the first red data book for British fungi, produced back in the 1980's. It is still not that common with only 130 records for Great Britain and Ireland and this is the first record for Middlesex. It is most likely under recorded.

Fig 15 *Coriolopsis gallica* ©Andy Overall

9.2 *Pluteus cinereofuscus* – TQ 231 820 - Among herb on woodchip mulch shrub bed-Eastern Boundary. 1st Record for Middlesex

This was an unfamiliar species to me and on first impressions I believed it to be a species of Entoloma but microscopic details told me otherwise. It is known to fruit singly on decayed wood of deciduous trees or buried woodchip upon which it was growing here. With only 158 records on the FRDBI it is not a common species and this was the first record for Middlesex.

Fig 16 *Pluteus cinereofuscus* ©Andy Overall

9.3 *Hygrophoropsis rufa* – On woodchip mulch in grass boundary area with Delgado Road.

This species has only in recent years been separated from the common and widespread species *Hygrophoropsis aurantiaca* with which it had been considered a variety. Some authorities may be still hold the opinion that this species is a variety of *H. aurantiaca*. My determination follows the treatment given in Funga Nordica 2009. It differs from *H. aurantiaca* by having different habitat requirements and colouration of fruit bodies.

Fig 16a – *Hygrophoropsis rufa* ©Andy Overall

9.4 *Leccinum duriusculum* – TQ 228 820 – On soil among grass close to Grey Poplar trees northwest boundary of semi-improved grassland

This species is occasional and widespread in the southern counties of England, yet it is rarely reported elsewhere. It is a species that is restricted to various species of Poplar, which therefore narrows down the possibilities of recording this species. It is interesting that the first time I recorded this species in the London area back in 2000, it was from Kensal Green Cemetery, which is not a million miles from LWS. This would highlight the importance of LWS forming part of a mosaic of inter-connected, nearby habitats.

Fig 16b *Leccinum duriusculum* ©Andy Overall

9.5 Schizophyllum amplum – TQ 228 820 – Growing on dead twigs of Grey Poplar trees.

An important record this, as it is a species that is considered Near Threatened and therefore Red Data Species and it appears accordingly on the updated list as such. This is a small, sessile, gilled species that fruits on the twigs and small branches of Poplar species and more rarely on Crack Willow. It could be that this is an under recorded species, due to its habit and small size. There are only fifty odd records for Great Britain and Ireland with six, now seven of these from Middlesex.

9.6 Recommendations

9.7 Semi Improved Neutral Grassland and Scrub

It may be detrimental to the future management of the semi-improved neutral grassland were I to suggest that mycorrhizal tree partners such as Betula pendula be introduced to the area but where possible I would advise that to happen. Even if planting of Betula were just to take place around the edges of the grassland, it would greatly enhance the chances of a greater diversity of fungi on this area of the site. Many dogs use this area as a toilet, which would also adversely affect any fungi that may fruit

in this habitat type, it may well be worth monitoring this as it will also be detrimental to the quality of the grassland.

9.8 Southern Boundary

The shrub beds are the most prolific for fungi along this border and if they are maintained should continue to be so. The large Turkey Oak has *Inocybe perlata* associating with it and *Ganoderma resinaceum* has penetrated the heartwood. It may be worth checking on the stage of the rot within the tree as a result of this annual bracket fungus as the tree is so close to the road and public path.

9.9 Western Boundary

The important areas along this boundary for fungi are the areas with the mycorrhizal trees, the Willow on the north side of the children's play area and the Grey Poplar on the east side of the path. As long as these are managed as they are, they should continue to see the associated fungi. The immediate boundary with Mitre Way looks initially promising but in fact produced very little. It could do with some thinning out of the Prunus here and cleaned of rubbish. It would also be worth considering introducing some Birch along the bottom edge of the slope.

10.0 Northern Boundary

A good variety of native trees and shrubs occur along this boundary with the North Pole Depot, however it does need cleaning up of rubbish and thinning out of shrubbery. The glade area described in the London Ecology Unit report of 1999 (Hewlett 1999) could be recreated; this would most definitely help encourage fungi. Dead wood that has been left in situ in this area is to be commended as it has encouraged some notable species. This should be continued. Further east where the bramble and scrub become thicker could also do with some thinning out and clearing. I noticed that this in fact did take place on the southern side of the mound and at the end of the woodchip path, late in the year. I felt that this could have taken place earlier, once nesting birds had vacated, this would of allowed for any larger fungi associated with any nearby trees to make themselves known.

10.1 Eastern Boundary

The most important habitat for fungi along this boundary at present is the shrub border. The large Willow trees running from North to South should, in time prove to have associated mycorrhizal species with them, as well as saprobic and parasitic fungi on the wood. The improved-amenity grassland surrounding the trees, if not utilised by too many dogs, should also provide good habitat. The shrub border needs management in the cutting of nettles and the clearing of rubbish. As long as the woodchip mulch is replenished from time to time there is no reason why various species of saprobic larger fungi would not thrive there.

10.2 Conclusion

In conclusion, Little Wormwood Scrubs Park, even though dominated by amenity grassland and being essentially a heavily utilised public park with partial ecological value, some areas of the park provided good habitat for various types of larger fungi. The area for which the park scores high on ecological value is that of semi-improved neutral grassland and scrub, a scarce habitat in London. However, this habitat was not good for fungi. This maybe a result of the high use of this area by dogs, leading to higher nitrogen levels. The very North Western border of this grassland and scrub where a line of Poplar trees grow alongside the path, provided one of the better habitats and one of the best records of the survey. In mutual symbiosis with these Poplars is the occasionally reported *Leccinum duriusculum* a medium sized member of the Boletus family, which is at present restricted to Populus sp. I would support the planting of other mycorrhizal pioneer trees such as Betula to encourage more mycorrhizal fungi around the fringes of the grassland and scrub.

The large area of amenity grassland in the centre of the park is not where you would expect to find too many species of larger fungi, as was the case during this survey. However, if not utilised to heavily by people and their dogs it may still see species such as *Marasmius oreades* fruiting in rings. In the southwestern corner of this grassland there are a couple of willow trees, which need to be monitored for mycorrhizal fungi. Nothing was picked up on this survey but that is not to say that mycorrhizal fungi aren't associating with them.

The areas of the park that have shrub borders, like those along the southern and eastern borders, if continued, should be with management of litter, nettle and bramble and replenished of substrate as they were the most prolific habitats for fungi. Some good records such as *Pluteus cinereofuscus* among others highlighted this.

The dense scrubby areas of the western border offered very little, with a lack of light and bare, compacted soil, some thinning of scrub needs to take place here, also here, once cleared of some of the Prunus, Betula again would be a useful addition. The Prunus trees can attract certain species of *Entoloma* not picked up on this survey but worth noting for future reference.

Dead wood lying and left in situ was fairly prevalent in certain areas such as within the scrubby northern border and around some of the bigger willow and poplar trees on the edge of the grassland scrub. This is a good practice as it does attract a succession of dead wood specialists such as the rarely reported *Coriolopsis gallica* recorded from the scrubby northern border. Where possible in the park it would be advantageous to leave more dead wood, fallen and standing.

Despite Little Wormwood Scrubs comprising in the main of, amenity grassland, which therefore limits the park's capacity to provide a diverse range of fungi, it still has a number of small areas of interest with regard to larger fungi. The number of species recorded was low but among them were a number of species of local or national importance, which should be noted and afforded some protection under the applicable BAP schemes.

11.0 **Kensington Memorial Park**

Kensington Memorial Park also known as St Mark's Park by locals is 2.6 hectares in size and is 85 years old. A larger area known as St Quintin's Park was purchased in 1926 by the Kensington War Memorial Park fund in memory of those who fought in the 1st World War. Princess Louise, Duchess of Argyll in the same year, opened the area as a public park. Most of the area was lost to housing, and the remainder became Kensington Memorial Park. It is a mainly recreational space that includes amenity grassland with hedge, shrub and tree borders.

11.1 Current Status and Habitat

The park has been awarded a Green Flag and has been proposed as a site of local conservation importance. This proposed designation is based upon the park being a sizeable open space with good native hedges of Hawthorn, Field Maple and Blackthorn and the potential for habitat re-creation.
Kensington Memorial Park is primarily amenity grassland on London Clay with native hedge and tree lined borders. A small garden area lies to the south of one of the large sports pitches, around which there are shrub borders. A small area of semi-improved neutral grassland is situated at the southern end of the tennis courts. The habitat re-creation has already begun with the noticeable creation of meadow and woodland wildflower areas.

11.2 Method

The survey was carried out from April until December, therefore providing a good time period that covered the changing, environmental conditions. Kensington Memorial Park was grouped together with three other parks during this survey, Emslie Horniman Garden, Athlone Gardens and Little Wormwood Scrubs Park. They were together allocated one of the two visits per month allowed for the survey during quieter months for fungi and when the visits rose in October and November to three as these are busier months for fungi, the time was shared evenly between all nine sites covered in this survey.

It was possible to cover the whole park during visits without areas would be missed or rushed, so it was unnecessary to allocate compartments. Each of us took a separate route through the park, noting and collecting as needed as we went.

When possible, species were named in the field, if not possible, collections were made for identification by microscope. Status and nomenclature criteria used in the accompanying spreadsheet of species recorded, was based upon recent literature listed in the bibliography at the end of the report, in particular the *Checklist of British and Irish Basidiomycota* by Legon and Henrici (2005, published by Kew Gardens). Frequency was given as in the pre-mentioned publication, as frequent, infrequent, occasional, widespread, rarely reported, rare or Red Data Listed. In some instances these entries were modified with qualifiers such as locally common. GPS readings were taken for each rare or endangered species for their exact location. Specimens of the rare and unusual species were collected, dried, written up and deposited as voucher specimens at the Fungal Herbarium, Royal Botanic Gardens, Kew.

Fig 17 – Base Map of Kensington Memorial Park

11.3 Areas of particular note and future potential

11.4 Semi Improved Neutral Grassland south end of tennis courts

This small area behind the tennis court is cut off from the rest of the park and it had a few species associating with the Betula pendula growing there, the common Birch associate *Paxillus involotus* and the occasional *Hebeloma mesophaeum*. This is a good example of how having Birch growing on site will encourage various mycorrhizal fungi. On the shrub borders in here both *Lepista saeva* and *Lepista nuda* were recorded among other small grassland species. It would be worth removing the picnic bench in this area though because it will lead to habitat disturbance.

11.5 Shrub borders around flower garden

These nutrient rich shrub borders provided the majority of the species picked up on this site survey. This kind of habitat is transient in nature and so therefore are the fungi that inhabit these substrates such as the woodchip mulch found here. As long as these areas are kept as shrub borders and the substrate is replenished from time to time, the various saprobic fungi will utilise it. It is worth mentioning that the woodchip used around the kiddies play area and its wooden border has also attracted fungi, some of which are toxic, namely *Hypholoma fasciculare* Sulphur Tuft and the hallucinogenic species *Psilocybe cyanescens* – Wavy Cap. Neither of these is deadly toxic but they may cause alarming symptoms and as children use these areas I would say it should be monitored.

11.6 All Amenity Grassland and Bordering Native Hedge

Amenity grassland is generally not a good habitat for fungi as by its very nature it is extensively utilised, therefore resulting in heavy compaction. The grassland parasite *Marasmius oreades* – Fairy Ring Champignon was in evidence only in that its characteristic rings, forming areas of dead and lush grass, were noted. No other species were seen, even along the hedge borders, where I would have expected to record some species with the native shrubs.

11.7 Results and species of particular note

A total of 17 species from 29 records were identified from Kensington Memorial Gardens between April and December 2011. Most of these records were associated with artificial, transient habitat such as the mulched shrub beds or woodchip and wood surrounding the kiddies play area. However, a few records came from the small semi-improved neutral grassland at the south end of the tennis courts. Some of the species recorded were associating with Birch trees in that area and others with the shrub border. I feel this is a good example of how just having a couple of birch trees in a less disturbed area of the park, can encourage mycorrhizal fungi. The amenity grassland areas were a disappointment which is not surprising as these areas are not allowed enough time without management or use for any grassland associated species to fruit. Were these areas left to grow unmanaged for a period of time I have no doubt that certain fungi would appear. The native tree lined and hedge borders also had no fungi that were apparent during the survey visits.
The species recorded were what you would expect from the habitats described within Kensington Memorial Park, all are frequent, common and mostly widespread across England. Some of these species are covered below.

11.8 *Agrocybe putaminum* – North Shrub Border

This species is a relatively recent addition to the UK Mycota. In 1986 it was recorded from woodchip mulch in Kew Gardens, it has now spread somewhat across various counties with the widespread use of this substrate but with only 31 records on the FRDBI it seems not to be moving at too fast a pace.

Fig 18a *Agrocybe putaminum* ©Andy Overall

11.9 *Hypholoma fasciculare* – Sulphur Tuft - On wood surrounding the kiddie's playground

This is a very common, dead wood specialist, easily identified by its bright yellow colouration. It grows in clusters, sometimes large. It is a toxic species.

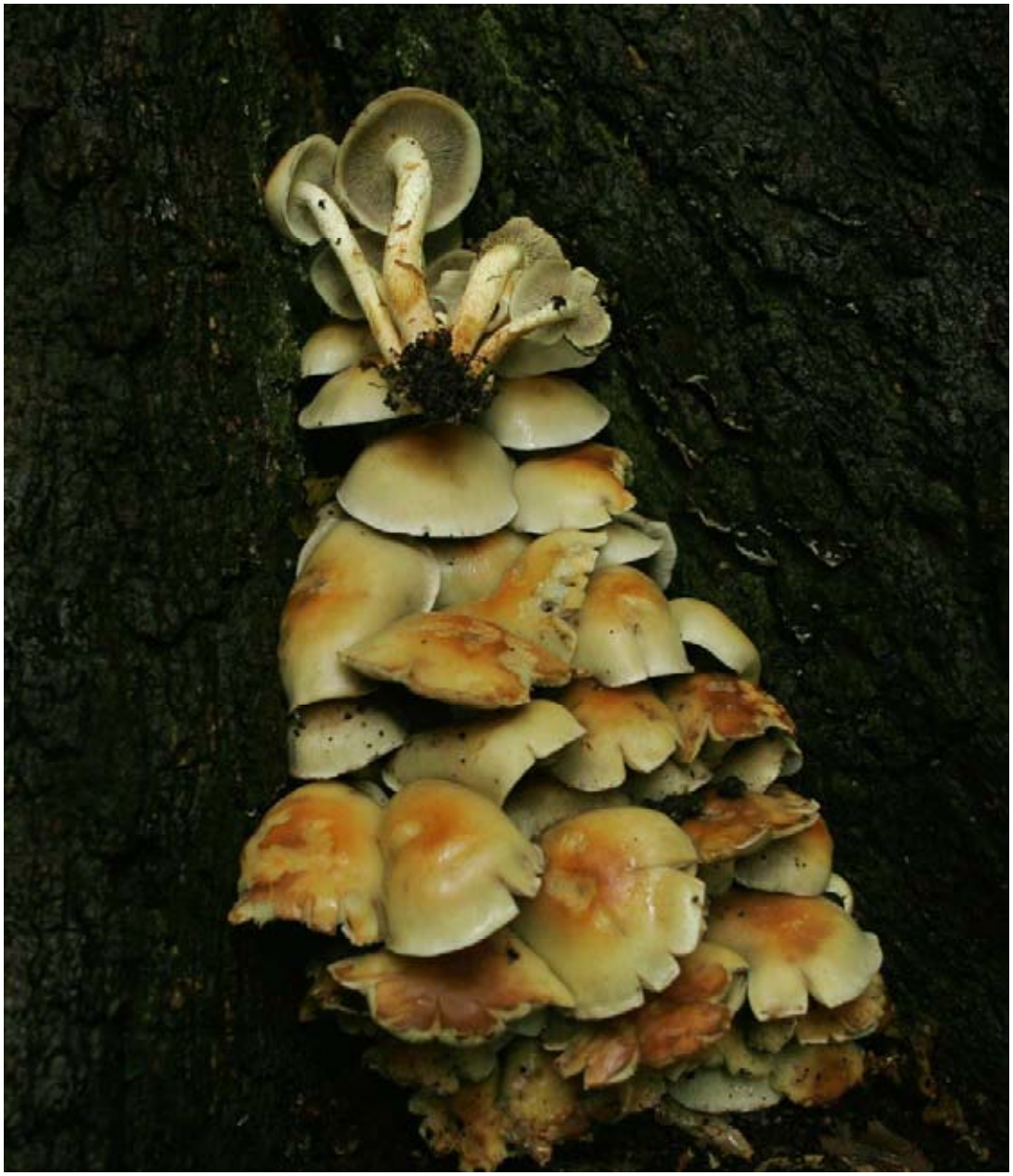


Fig 18b – Hypholoma fasciculare ©Andy Overall

12.0 *Psilocybe cyanescens* – Wavy Cap – On wood surrounding the kiddie's play area

This is one of those species that has really taken off with the widespread use of woodchip, upon which it can often be seen in large troops. This record was from the edging of the Children's Play Area. It is a strongly hallucinogenic species.

12.1 Recommendations

The ecological management plan for Kensington Memorial Park mentions leaving dead wood in place wherever appropriate, throughout the park. This I would wholly endorse as this will encourage more saprobic and dead wood specialist fungi to the park. Where the plan mentions filling gaps in the native hedge I would advise that this be Birch as this will help to encourage more mycorrhizal species to the park. Also wherever possible and appropriate, Birch should be planted elsewhere in the park. All shrub beds should be periodically replenished, as they probably. This will help keep the diversity of woodchip mulch loving species in place and encourage other species. The small grassland area with birch, behind the tennis courts should be managed as is; the picnic bench should be removed, as this brings disturbance and pollution to the area. I think it would be a good idea to keep dogs out of this area if possible.

12.2 Conclusion

Given the very public nature of Kensington Memorial Park I feel it still has something to offer with regard to larger fungi. It is always a battle with relatively small recreational sites such as this to have areas where larger fungi flourish, as they are so intensively used by people and their dogs, which invariably leads to soil impaction and pollution. The soil impaction inhibits oxygen and water to the soil and the dog use leads to high nitrogen levels, these both inhibit most larger fungi from succeeding. The shrub beds are the most fungi prolific in the park and if these are maintained should continue to be so. The small, more excluded area of grassland area behind the tennis courts is a good example of what you can expect from just a small area with a couple of birch trees with relatively light footfall. Three species of mycorrhizal fungi are associating with these Birch trees, the only mycorrhizal fungi found in the park, it would be beneficial to try and replicate this elsewhere in the park. Some more dead wood could be appropriately placed throughout the park to encourage more saprobic species. The number of species recorded from the park was low but that is to be expected from a recreational site such as this. If some of the measures outlined were to be implemented I think the park would see a rise in the number of larger fungi present.

13.0 **Avondale Park**

Avondale Park was created in 1892 when the area that had been a huge fetid pool known as "the ocean" was finally built on. This former area of slurry was part of the notorious Piggeries as well as the location of tile kilns and brickfields.

The site was purchased from the Adams family in 1889, and after the excavations, seven feet in depth, had been filled in, the park was formally opened on 2 June 1892. It was called Avondale Park in memory of the recently deceased Duke of Clarence and Avondale. The park comprises green recreational spaces bordered by trees and shrubs.

13.1 Current Status and Habitat

Avondale Park is currently without status. The borough ecological survey carried out in 2002 has the park with a planning status for a site of Nature Conservation Importance. This is on the basis of the park containing a neglected wildlife garden that has retained a planted native flora, which could possibly be restored. Avondale Park is a recreational park with tree-lined borders, shrub beds, a wildflower meadow and a rather neglected wildlife garden with a dried up pond, which had been dug out and removed by the end of the survey. All this surrounds a children's play area in the middle of the park.

13.2 Method

The survey was carried out from April until December, therefore providing a good time period that covered the changing, environmental conditions. Avondale Park was grouped together during the survey with four other parks, Holland Park, Cremorne Gardens, Westfield Park and St Lukes Gardens. They were together allocated one of the two visits per month allowed for the survey during quieter months for fungi and when the visits rose in October and November to three, during these busier months for fungi, the time was shared evenly between all nine sites covered in this survey.

It was possible to cover the whole park during visits without areas in danger of being missed or rushed, so it was unnecessary to allocate compartments as such. Each of us took a separate route through the park, noting and collecting as needed as we went.

When possible, species were named in the field, if not possible, collections were made for identification by microscope. Status and nomenclature criteria used in the accompanying spreadsheet of species recorded, was based upon recent literature listed in the bibliography at the end of the report, in particular the *Checklist of British and Irish Basidiomycota* by Legon and Henrici (2005, published by Kew Gardens). Frequency was given as in the pre-mentioned publication, as frequent, infrequent, occasional, widespread, rarely reported, rare or Red Data Listed. In some instances these entries were modified with qualifiers such as locally common. GPS readings were taken for each rare or endangered species for their exact location. Specimens of the rare and unusual species were collected, dried, written up and deposited as voucher specimens at the Fungal Herbarium, Royal Botanic Gardens, Kew.

Fig 19 – Base Map for Avondale Park

13.3 Areas of note and future potential

There were no areas of particular note and therefore, no foreseeable potential for a diversity of larger fungi within the park. The low numbers of species recorded were all saprobic species, fruiting mainly on a transient substrate and they were scattered about the park.

13.4 Tree lined borders and other trees within the park

The grassy, tree lined southern border of the park was of interest, as it presents a reasonable habitat for various types of fungi. The Lime trees growing here are good mycorrhizal partners for a number of larger fungi genera. No mycorrhizal fungi were found here during the survey but that is not to say that there won't be in the future. A couple of species of *Agaricus* were found along this bank, which is an indicator of its potential. The big problem that this habitat faces as well as other areas of the park is that of dog use polluting the soil. The large Poplar trees at the western end of the park may also have potential with associated mycorrhizal, saprobic or parasitic fungi species, however none were recorded during the survey.

13.5 Shrub and Flower Beds

The woodchip mulch used to nourish these areas will always attract larger fungi saprobes of genera such as *Psathyrella, Agrocybe, Agaricus* and *Psilocybe* among others. As long as the beds are replenished periodically some of these genera of fungi will be present. With most urban parks if they have no unimproved grassland or appropriate mycorrhizal trees present, Shrub and Flowerbeds provide good habitat for certain types of fungi but are in no way a substitute for the aforementioned.

13.6 Results and species of note

A total of twelve species of larger fungi were recorded and identified from Avondale Park from twelve records between April and December 2011. All of these were common saprobic species feeding on dead wood, grass or mulch. Three species of Agaricus were recorded, *A. bisporus*, *A. bitorquis* and *A. comtulus*; these are species that prefer fairly nutrient rich soils, which could be an indicator of the level of dog use in the park, two species were recorded from the southern border and one from the large shrub scrubby area on the north eastern side of the park just before the wildlife garden. The shrub and flowerbeds provided a few records, *Psathyrella corrugis, Melanoleuca polioleuca* and *Agrocybe putaminum* the latter of which the least recorded and seems to have had a good 2012 across London. No mycorrhizal fungi were recorded during the survey. All of the species recorded are frequent, common and widespread across England and what you would expect from a public area such as Avondale Park.

13.7 *Agaricus comtulus* – Southern Tree Lined Border

This is an occasionally recorded yet widespread species in the UK and it is well represented on FRDBI with 269 records. It is a species that can be found in a range of different habitats such as, in grassland, open woodland, dunes, parkland and occasionally on lawns.

Fig 20 *Agaricus comtulus* ©Andy Overall

13.8 Recommendations

I noticed that there was very little dead wood lying or standing in the park, which is probably as a result of health and safety concerns however, if there are areas where dead wood, could be left in situ, such as the wildlife area then this would be beneficial. The area that precedes the old pond area needs cleaning up, as a lot of rubbish has been left there and if it was thinned out of shrubby scrub I think this would help any fungi associating with the Willow growing here, to fruit and be noticed. I would also advocate planting some Silver Birch, wherever appropriate, maybe where the old pond used to be or, if a new pond is to be dug out planting of Birch and Willow around the pond would attract associated mycorrhizal fungi. The shrub and flowerbeds need some thinning to create a little more space for the mulch loving fungi to thrive. A fence, like that around the plane trees a the north end of the park, that would run west between the path and the southern border, would be a useful deterrent to help keep dogs from using that area. This would help any fungi that associating with the lime trees.

13.9 Conclusion

The low number of species recorded from Avondale Park reflects how poor a habitat this currently is for larger fungi. However, this can be improved upon by clearing out the scrubby shrub where the crack willow are and if the old pond area is to be re dug then the planting of some mycorrhizal partner trees such as Birch and Willow around the pond would be beneficial for associated fungi. If there is to be no pond then the birch should be planted anyway to create a glade-like area. Currently both of these areas are achieving very little and I can see the potential for larger fungi should they be tended to in this way. The idea of the urban park as an area for conservation is a very difficult one to achieve, as one always has to think of the public first. The large number of dogs that visit the park and the associated waste does not help and is understandably difficult to control. A fence line along the southern border is something that should be considered to help stop dogs using this area and therefore aiding any fungi associating with the lime trees along this grassy border. If these measures are implemented they will help to greatly enhance the mycota of Avondale Park.

14.0 **St Luke's Gardens**

The 2.5 acres that are St Luke's Gardens became public gardens in 1890 - 121 years ago. Prior to this the gardens surrounding the church were used as a burial ground, having been consecrated in 1812. The area ceased to be used as a burial site in 1857. In 1887 when the London County Council acquired the site with a £1,500 grant; surveyor Mr Strachan laid out the site as a public garden. James Veitch completed the planting of the formal gardens. In 1888 the freehold passed to the then borough of Chelsea. During WW2 the park did suffer bomb damage. The park is surrounded by Sydney Street, Cale Street, Britten Street, St. Luke's Street, private and social housing. The area is fundamentally a recreational space bordered by trees and shrubs all of which will influence the fungi present in the park today.

14.1 Current Status and Habitat

St Luke's Gardens has a Green Flag Award, which was awarded in 2009 and the park in its entirety is listed, as grade II under the English Heritage Register of Parks and Gardens of Special Historical Interest in England. St Luke's has been a public garden for over 120 years during which it has been gradually manipulated into a recreation area for children and dogs. The north side of the church is where the children's play area is situated and on the south side there is a more relaxed green area with mixed trees. The north and south boundaries are bordered by trees, invariably Plane or Lime trees. Along the eastern boundary of the southern section of the gardens runs a hedge. There are scattered trees about the southern section; such as one Birch tree and a large Ash tree as well as an exotic or two. The grassland at the western end of the southern section is quite lush with mosses mixed in. This could provide a good habitat for certain fungi. As the northern side of the church is dominated by play areas and toilets only the shrub borders are of interest with regard to fungi. The small areas running directly next to and around the church have small grassy areas with shrub borders, which could be of interest.

14.2 Method

The survey was carried out between April until December, therefore providing a good time period that covered the changing, environmental conditions. St Lukes Gardens was grouped together during the survey with four other parks, Holland Park, Cremorne Gardens, Westfield Park and Avondale Park . Together these were allocated one of the two visits per month allowed for the survey during the quieter months and during October and November the number rose to three, to accommodate the busier months for fungi, the time was shared evenly between all nine sites covered in this survey.

It was possible to cover the whole park during visits without areas in danger of being missed or rushed, so it was unnecessary to allocate compartments as such. Each of us took a separate route through the park, noting and collecting as we went.

When possible, species were named in the field, if not possible, collections were made for identification by microscope. Status and nomenclature criteria used in the accompanying spreadsheet of species recorded, was based upon recent literature listed in the bibliography at the end of the report, in particular the *Checklist of British and Irish Basidiomycota* by Legon and Henrici (2005, published by Kew Gardens). Frequency was given as in the pre-mentioned publication, as frequent, infrequent, occasional, widespread, rarely reported, rare or Red Data Listed. In some instances these entries were modified with qualifiers such as locally common. GPS readings were taken for each rare or endangered species for their exact location. Specimens of the rare and unusual species were collected, dried, written up and deposited as voucher specimens at the Fungal Herbarium, Royal Botanic Gardens, Kew.

Fig 21 Base Map for St Luke's Gardens

14.3 Areas of particular note and future potential

There were no areas that were worthy of particular note but certain areas do have future potential.

14.4 Southern side of the church, grassy areas, scattered trees, tree and hedge lined borders.

The southern side of the church without doubt has the better habitat for fungi, be they mycorrhizal, saprobic or parasitic. Certain areas of the grassland here are quite mature and semi-improved with small mosses mixed in. Certain types of grassland fungi prefer this habitat, such as *Hygrocybe* the Waxcaps and the western end to this grassy area had a certain quality, which may well see more species in years to come. The odd trees scattered about this green area, such as the Birch and Ash trees will attract mycorrhizal, saprobic and parasitic species, however, none were noted on this occasion. The trees bordering the southern boundary, may or may not see mycorrhizal partners, depending on the tree species, if Lime then they will do so, if Plane or Horse Chestnut they will not, but all of them may experience both saprobic and parasitic fungi. One of the Plane trees on the north side of the church, on the boundary, has the parasitic species *Inonotus hispidus* fruiting high up the tree, in a wound at the junction with a big branch. There are some buried stumps at the northern end of the southern side of the church that have the saprobic species *Coprinellus micaceus*- Glistening Ink Cap, fruiting from them.

14.5 All shrub borders

As with all the other parks covered in this survey, the shrub borders with their woodchip mulched substrate offer a good habitat for a variety of saprobic fungi that utilise this rich mix.

14.6 Results and species of note

This was a site that took some time to reveal any fungi at all; it wasn't until mid November that any fungi begun to appear. A total of eleven species from twelve records were identified from St Luke's Gardens between April and December 2011. All were common and mostly frequent saprobic fungi found on the woodchip mulched shrub beds or buried dead wood. A single specimen of the least common of the records, *Melanoleuca cognata var. cognate* was found fruiting among shrubs in a small area between a recreational area and the church. In addition a shrub border near to the entrance of the park from Cale Street provided, The Wood Blewit, *Lepista nuda* and The Twiglet, *Tubaria furfuracea*. Despite the shrub borders having the most species I believe that the grassy areas on the south side of the church, the scattered trees and the tree lined borders will provide a more diverse range of larger fungi. Unfortunately they were not on display during the survey visits. Just a few species were recorded from the grassy area on the south side of the church such as *Mycena flavoalba* and on buried dead wood large clusters of *Coprinellus micaceus*-The Glistening Ink Cap. All of these species are mostly frequent, common and widespread in the UK some of which are shown below.

14.7 Stropharia caerulea – On woodchip mulch in shrub bed – Next to the church on the south side.

This is considered an occasional yet widespread species throughout England which had been previously recorded mistakenly as the less common species *Stropharia aeruginosa* as they are very difficult to tell apart in the field. Among the ten records (under recorded) of this species for Middlesex I noticed one from a Keith Bates recorded from none other than St Luke's Church in 2002.

Fig 22 *Stropharia caerulea* ©Andy Overall

14.8 Recommendations

I think much of the ecological enhancement that is mentioned in the management plan for St Luke's Gardens is moving in a positive direction with regard to larger fungi, especially the native hedge along the southern and western boundaries of the south side of the church. This will certainly help to enhance the mycota of the gardens, as it will afford the area some protection from desiccating winds as well adding some mycorrhizal partners such as Hazel and Hawthorn. Deadwood is mentioned in the plan also, which is a very good source of nutrients for saprobic fungi from many different genera. As well as this laying along the hedge boundaries maybe some could be placed in out of the way areas such as the new woodland flower area and any other recesses such as along the north side of the church. Once again I would encourage you to plant a few more birch trees, especially I think on the edge of the western end of the lawns on the south side of the church. The shrub borders are little thick in places, so will inhibit fungi a little, it would be a good idea to have a little more room in some of the borders to encourage more of these saprobic fungi. Dog use in the gardens will affect the fungi present if the volume is high so some control is necessary.

14.9 Conclusion

Even though the number of fungi recorded form St Luke's Gardens was very low, and most came from the shrub borders surrounding the gardens, I think that the south side of the church has a fair amount of potential. If the native hedges are planted and dead wood is left in situ along the hedge border, among other areas, this should help improve the mycota, as it would also give some shelter from the elements. I think that some Birch trees at the western end of the south side, at the edge of grassy area would also help to enhance the diversity of fungi present. As with the other small parks covered in this survey the gardens may suffer from dog use and associated waste but I didn't get the impression that it was such a bad problem at St Luke's. The nature of the gardens being church land does bring a different feel to the area and this works in the favour of ecological management, as it is a more peaceful, ascetic site, especially the south side of the church. Church yards in fact can be very good sites to look for fungi as they are generally not over managed, the use of fertilizers on grassland is rare and they tend to have mature, native and non-native trees, Kensal Green being an example. St Luke's is a far smaller site with not so many secluded areas and diversity of trees and is a public garden, however, with the recommendations I have given in tandem with the ecological enhancements outlined in the management plan, an improvement to the mycota of St Luke's Gardens can be realised.

15.0 **Cremorne Gardens**

At 0.44 hectares these gardens are among the smallest covered during the survey. Cremorne Gardens are considered to be around 60 years old consisting of a central area of grassland bordered by trees and shrubs bordering the River Thames. The wall to the gardens forms part of the flood defences and is monitored regularly by the Environment Agency.

15.1 Current Status and Habitat

The gardens current status is that of a Green Flag Award. Cremorne Gardens has a central grass area that is surrounded by various trees and shrubs. The shrub border at the southern end of the park is the largest of these.

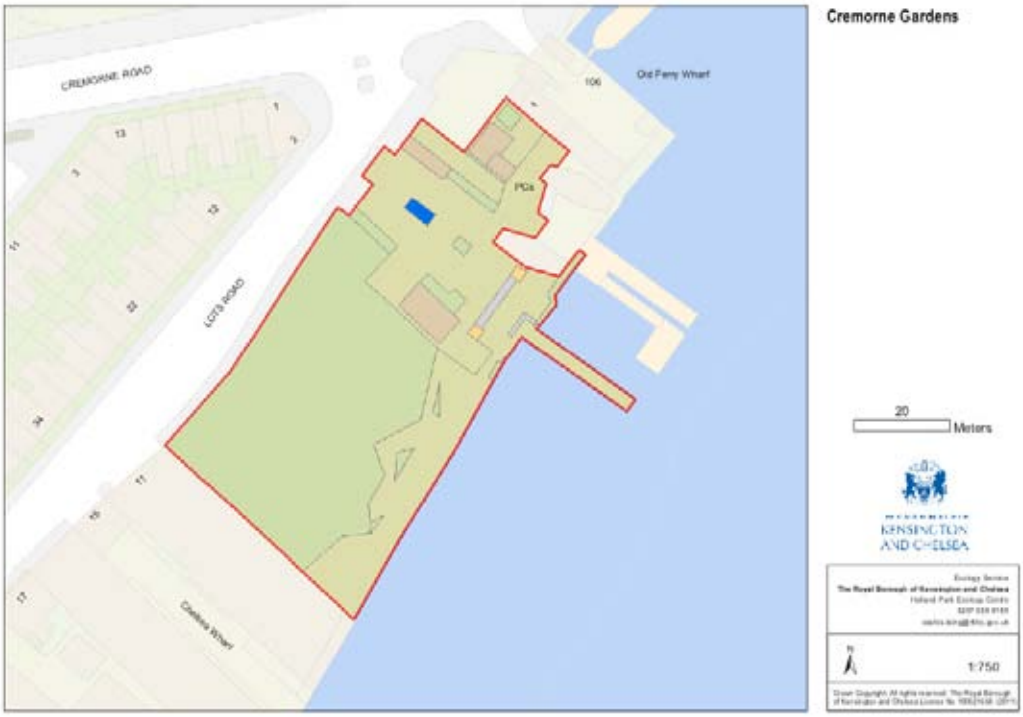
15.2 Method

The survey was carried out between April until December, therefore providing a good time period that covered the changing, environmental conditions. During the survey, Cremorne Gardens was grouped together during the survey with four other parks, Holland Park, St Luke's Gardens, Westfield Park and Avondale Park. They were together allocated one of the two visits per month allowed for the survey during quieter months for fungi and when the visits rose in October and November to three, during these busier months for fungi, the time was shared evenly between all nine sites covered in this survey.

It was possible to cover the whole park during visits without areas in danger of being missed or rushed, so it was unnecessary to allocate compartments as such. Each of us took a separate route through the park, noting and collecting as needed as we went.

When possible, species were named in the field, if not possible, collections were made for identification by microscope. Status and nomenclature criteria used in the accompanying spreadsheet of species recorded, was based upon recent literature listed in the bibliography at the end of the report, in particular the *Checklist of British and Irish Basidiomycota* by Legon and Henrici (2005, published by Kew Gardens). Frequency was given as in the pre-mentioned publication, as frequent, infrequent, occasional, widespread, rarely reported, rare or Red Data Listed. In some instances these entries were modified with qualifiers such as locally common. GPS readings were taken for each rare or endangered species for their exact location. Specimens of the rare and unusual species were collected, dried, written up and deposited as voucher specimens at the Fungal Herbarium, Royal Botanic Gardens, Kew.

Fig 23 – Base Map Cremorne Gardens



15.3 Areas of particular note and future potential

I found that there were no areas of particular note with regard to larger fungi in the gardens, however I felt that there is future potential.

15.4 The Grassland

This is the most important habitat for larger fungi in the gardens, not least because almost all of the few records form the gardens came from here. If the grass is kept short and fertilizers aren't used upon them, allowing small mosses to grow, then I can only see them getting better for grassland fungi.

15.5 Shrub Borders

These as with the other parks are important habitats for various types of saprobic fungi. Although no species were recorded form the borders during this survey that does not mean that will not be any recorded in the future. Woodchip mulch is such a transient substrate and the fungi that associate with it are no different. Some space could be created among the shrubs and the substrate replenished form time to time to allow for fungi to flourish.

15.6 Results and species of note

A total of seven species from seven records were identified from Cremorne Gardens between April and December 2011. This low number is not surprising given the small size of the park and the limited potential for bio-diversity therein. The open grassland area holds the greatest potential and proved to be so with the majority of the records made from there. These were common and widespread species such as *Panaeolus fimicola, Parasola plicatilis* and *Entoloma sericeum*. The native hedgerow mentioned in the management plan as part of the ecological enhancement will work well with the grassland. In time, if trees such as Hornbeam are used and as long as the area doesn't have to endure heavy dog use, mycorrhizal species should appear on the grass area. The main shrub border at the southern end of the garden and the

border running parallel with Lots Road didn't produce many fungi at all, which surprised me, as these are generally good areas for rich substrate loving saprobic species. A large fruiting of *Armillaria mellea*, Honey Fungus was recorded from a tree stump to the right of the entrance to the gardens, which may need some attention with regard to its spreading. All of the species recorded are frequent and common throughout the UK; none of these were of note.

15.7 Recommendations

The most important habitat within the gardens is the central grassland area. This needs to be preserved and maintained as it is currently and allowed to incorporate mosses. This will encourage various species of grassland species. The ecological enhancements that are mentioned in the management plan for the park, if implemented, I would endorse. As there is very little space to work with I feel that a hedgerow of native trees and shrubs would work well to try and help enhance the mycota of the gardens. If there was room I would advocate some planting of some Birch to further encourage some mycorrhizal species to the gardens. The shrub beds need thinning out to create some space and light for mulch-associated fungi to colonise. Dead wood should also be left in situ, wherever possible, to encourage dead wood specialist fungi. Attention will have to be paid to the Honey Fungus seen fruiting from a tree stump on the raised area to the right of the entrance to the gardens. Dog use should be kept to a minimum, if any use granted at all.

15.8 Conclusion

The very low number of species of larger fungi from Cremorne Gardens highlights the gardens bio-diversity limitations, especially with regard to diversity of habitat. However, the grassland area offers future potential if maintained in its current state but is allowed to incorporate mosses, which will encourage a range of grassland fungi. As part of the ecological enhancement planned for the gardens a native hedge is on the agenda, this would be beneficial for mycorrhizal fungi and would work well with the grassland area, as the fungi will have this space to fruit within. If this was added to by a few Birch trees, if appropriate space is available, then this would further add to the future potential of larger fungi in the gardens. The shrub beds need some thinning out and replenished periodically of woodchip mulch and dead wood needs to be left in situ about the gardens wherever possible to help encourage saprobic, dead wood specialists. It would be beneficial for such a small area to have a no dog policy, if this is not already the case, as if used extensively by dogs it would not be beneficial toward fungi. All of the fungi recorded from the gardens were what you would expect from an area such as Cremorne Gardens and are frequent, common and widespread species in the UK. With the implementation of some of the ecological enhancements this should result in an enhancement of the mycota for the gardens.

16.0 **Westfield Park – TQ 262 772**

Westfield Park is a recreational area approximately 60 years old and 1.1 hectares in size. The park came into being following extensive bombing of housing in the area during WWII. It consists of small areas of grassland in the centre of the park with scattered trees, bordered by trees and shrubs, a wildflower meadow and children's play area.

16.1 Current Status and Habitat

This site has a Green Flag Award. Westfield Park, much like the other small parks covered in this survey is essentially a recreational, public park. The park comprises of central amenity grassland with scattered trees, namely Plane and Prunus, with other shrubs bordering. There is also a wildflower meadow children's play area.

16.2 Method

The survey was carried out between April until December, therefore providing a good time period that covered the changing, environmental conditions. Westfield Park was grouped together during the survey with four other parks, Cremorne Gardens, Holland Park, St Luke's Gardens and Avondale Park. They were together allocated one of the two survey visits per month during quieter months for fungi and three in October and November as these are busier months for fungi. The time was shared evenly between all nine sites covered in this survey.

It was possible to cover the whole park during visits without areas in danger of being missed or rushed, so it was unnecessary to allocate compartments as such. Each of us took a separate route through the park, noting and collecting as we went.

When possible, species were named in the field and if not possible, collections were made for identification by microscope. Status and nomenclature criteria used in the accompanying spreadsheet of species recorded, was based upon recent literature listed in the bibliography at the end of the report, in particular the *Checklist of British and Irish Basidiomycota* by Legon and Henrici (2005, published by Kew Gardens). Frequency was given as in the pre-mentioned publication, as frequent, infrequent, occasional, widespread, rarely reported, rare or Red Data Listed. In some instances these entries were modified with qualifiers such as locally common. GPS readings were taken for each rare or endangered species for their exact location. Specimens of the rare and unusual species were collected, dried, written up and deposited as voucher specimens at the Fungal Herbarium, Royal Botanic Gardens, Kew.

Fig 24 Base Map of Westfield Park

16.3 Areas of Particular Note and Future Potential

There were no areas worthy of particular note throughout the park with regard to larger fungi and I could not identify, in the parks present condition, any areas of future potential. However, if some of the ecological enhancements underlined in the management plan, (such as the native hedge) for the park were implemented then this would definitely help raise the future potential, for larger fungi in the park.

16.4 Results and any species of note

A total of thirteen species from thirteen records were identified from Westfield Park betwee April and December 2011. The amenity grassland areas of the park provided only one record of the relatively small, total number of species from the park and these were both common and widespread saprobic species such as *Panaeolus fimicola* and on wood *Auricularia auricula judae* – The Wood Ear. The reason for this paucity would be a direct result of heavy footfall, dog use and the lack of mycorrhizal trees. The boundaries of the park proved to be the most fruitful with fungi inhabiting woodchip mulch or dead wood left in situ. The grass areas along the boundaries are also the most likely to produce larger fungi and one species, *Clitocybe agrestris* was recorded from the edge of the southern boundary with the Tetcott Road entrance. The majority of these records are common and widespread, among which were *Chlorophyllum brunneum* on the mulch and *Coprninellus domesticus* on dead wood. The most notable record from the park was that of *Melanoleuca polioleuca f. pusilla,* which was fruiting on what, looked like young turf inside the children's, play area. This turns out to be a 1st record for Middlesex. This determination has followed the up to date treatment given in Funga Nordica 2008. On the FRDBI this species is entered as *Melanoleuca oreina*, of which there are only thirteen records throughout the UK. The species recorded, apart from *M. polioleuca f. pusilla* are all common and widespread throughout the UK. Only one record came from the woodchip mulch of the shrub borders of the park I believe this is because the shrub borders are quite crowded and woodchip mulch seems not to be replenished too often.

16.5 Recommendations

These are very much the same recommendations as Avondale and Cremorne. There needs to be management of dog use as these influence the nitrogen levels in the soil which will adversely affect most fungi. Nothing can be done about the heavy footfall soil compaction and wear, as this is primarily a public park. There does need to be more mycorrhizal partner trees planted in the park either along the borders or out in the central area. Again I would recommend Birch for this. The native hedge for the boundaries of the park is a good idea and if containing Hazel and Hawthorn would go some way to providing mycorrhizal partners. It would be worth considering Hornbeam and Elm for hedge borders, as they are also mycorrhizal partners. The planting of some mycorrhizal conifer species in the park would be beneficial such as Scots Pine. Wherever possible, leaving dead wood, as mentioned in the management plan, would further enhance the mycota of the park. The shrub borders need to be thinned and woodchip mulch refreshed periodically to encourage associated fungi.

16.6 Conclusion

I found Westfield Park uninspiring and unrewarding as a habitat for larger fungi. The amenity grassland endures heavy footfall and dog use and is in need of some mycorrhizal trees to encourage associated fungi. Despite this, a rare record of *Melanoleuca polioleuca var. pusilla* was recorded from the grass area within the children's play area, which is a first record for Middlesex. Mycorrhizal trees such as Birch and Scots Pine would be a beneficial addition to the park boundaries or more secluded areas. The native hedge mentioned as an ecological enhancement in the management plan would be an excellent addition, especially as it will contain mycorrhizal species Hazel and Hawthorn. The shrub borders need to be thinned out and replenished of woodchip mulch periodically which will help associated to colonise. All of the fungi recorded from the park were what you would expect from an area such as Westfield Park and are frequent, common and widespread species in the UK. With the implementation of some of the ecological enhancements and the recommendations herein, the mycota of the park as a whole will benefit.

17.0 **Emsilie Horniman Pleasance – TQ 243 822**

Purchased in 1911 my Emsilie J. Horniman and dedicated in perpetuity to the people of London as a recreation ground and today it fulfils that role completely. It is currently an area of amenity grassland bordered by trees and shrubs. Used extensively by dogs and is the starting point for the Notting Hill Carnival for which it hosts 20,000 people.

17.1 Current Status and Habitat

In the 2003 London Conservation Services Habitat Survey of Kensington & Chelsea this site was given a planning status for being a Site of Nature Conservation Importance. This designation was put forward on the basis of the site being a relatively large open space in a built up area, which provides a partial green corridor link between the Grand Union Canal and the Western Mainline Railway. Further opportunities to enhance the site for nature conservation were also noted. The park, which was re-designed in 2000, is 1.37 hectares in size and has a central area of amenity grassland bordered by a few large Poplar trees and concrete paths. The boundaries of the park comprise of shrub borders within which woodchip mulch is used. Other areas of the park have child's play area, a small quiet garden and a rectangular water garden.

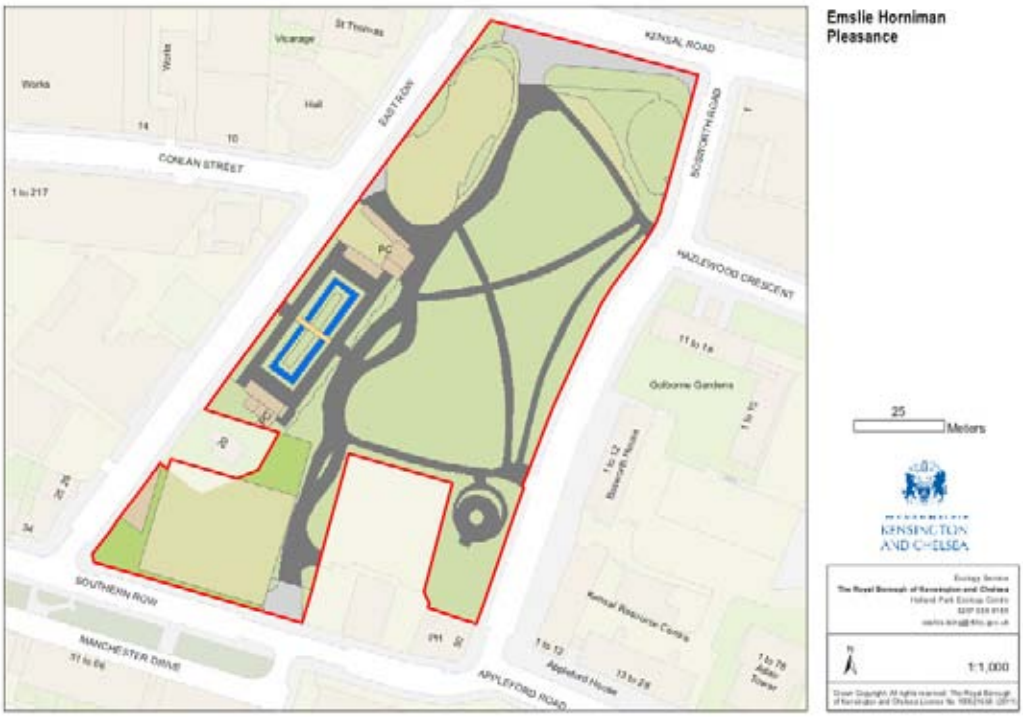
17.2 Method

The survey was carried out from April until December, therefore providing a good time period that covered the changing, environmental conditions. Emsilie Horniman Pleasance was grouped together during the survey with three other parks, Athlone Gardens, Kensington Memorial Park and Little Wormwood Scrubs Park. They were together allocated one of the two visits per month allowed for the survey during quieter months for fungi and when the visits rose in October and November to three, during these busier months for fungi, the time was shared evenly between all nine sites covered in this survey.

It was possible to cover the whole park during visits without areas in danger of being missed or rushed, so it was unnecessary to allocate compartments as such. Each of us took a separate route through the park, noting and collecting as needed.

When possible, species were named in the field, if not possible, collections were made for identification by microscope. Status and nomenclature criteria used in the accompanying spreadsheet of species recorded, was based upon recent literature listed in the bibliography at the end of the report, in particular the *Checklist of British and Irish Basidiomycota* by Legon and Henrici (2005, published by Kew Gardens). Frequency was given as in the pre-mentioned publication, as frequent, infrequent, occasional, widespread, rarely reported, rare or Red Data Listed. In some instances these entries were modified with qualifiers such as locally common. GPS readings were taken for each rare or endangered species for their exact location. Specimens of the rare and unusual species were collected, dried, written up and deposited as voucher specimens at the Fungal Herbarium, Royal Botanic Gardens, Kew.

Fig 25 Base Map of Emslie Horniman Pleasance



17.3 Areas of Particular Note and Future Potential

What struck me first about Emsilie Horniman were the large Poplar trees on the eastern border of the largest area of amenity grassland. On the southern most tree in the row, are some large brackets of *Ganoderma australe* which I initially thought may have been something less common, such as a species of *Phellinus* that associates with Poplar, unfortunately they were not. I was also interested to see whether anything associating mycorrhiza wise with Poplar might occur on the grassland in front but nothing was recorded.

17.4 Amenity Grassland

As mentioned for other parks throughout this report amenity grassland is not great habitat for larger fungi as a result of its heavy use. However, a couple of species were picked up on the small area of grass to the north side of the park. These were nothing special but they did indicate the potential of such an area. The problems on the grass areas are heavy footfall and dog use as they respectively compact and raise the nitrogen levels of the soil.

17.5 Shrub Borders

If maintained this habitat will continue to produce various types of saprobic species of fungi. The shrubbery to the south of the park between the school and tennis courts was the most interesting, especially where it borders the wall, as it is more open and not so crowded with shrubs. Other shrub borders about the park were too crowded with very little space to allow fungi to thrive.

17.6 Results and species of note

A total of eight species from nine records were identified from Emsilie Horniman Pleasance between April and December 2011. This low number of species highlights that the park is a relatively poor habitat for larger fungi. The discovery of *Lepiota subincarnata* tucked away among shrubs at the southern entrance was a good record for the park. *Leucoagaricus leucothites* and *Lyophyllum decastes* were picked up from the smaller northern area of amenity grassland that would indicate that conditions on the particular area may not be so favourable. These areas of amenity grassland take heavy footfall and endure a lot of dog use, both of which will affect the quality of the grass and soil and therefore any fungi, which may otherwise be present. The large Poplar trees on the border of the larger area of grassland looked promising for possibly mycorrhizal fungi but nothing was forthcoming. The common heartwood specialist, *Ganoderma australe* was recorded from the most southerly Poplar tree.
All eight species recorded for the park are what you would expect from a public area such as Emsilie Horniman Pleasance. Those recorded varied from being occasional to common and widespread across England.

17.7 *Lepiota subincarnata*-Shrub Bed Southern Entrance

This is a species that is becoming increasingly more common on flower or shrub beds associated with the rich compost or mulch. Previously it was know from soil in deciduous woodland. It is recorded occasionally but is widespread across England, it is rarely reported elsewhere. It is dangerously toxic.

Fig 26 *Lepiota subincarnata* ©Andy Overall

17.8 Recommendations

Particular ecological enhancements that are mentioned in the management plans for other RBKC parks would be applicable for Emslie. The addition of a native hedge along the boundary with Bosworth Road would be beneficial. The hedge could include Hornbeam, Elm, Hazel and Hawthorn, all mycorrhizal partners with larger fungi. Again, as with other similar parks on the survey, I would advocate the planting of some Birch trees. The most obvious area for this would be around the boundary of the amenity grassland south or in the quiet area. The most southerly shrub border could do with some tidying up and rubbish removed. If this area is kept fairly open and is replenished of mulch periodically the associated fungi will continue, this would also be applicable to other shrub borders within the park. It would also be useful to have dead wood placed discretely about the park to attract dead wood specialist fungi. It would also be beneficial if dog use were controlled in some way.

17.9 Conclusion

The low number of species recorded from the park between April and December 2011 is a testament to the parks relatively low worth as a site for larger fungi at present. This is no doubt due to the nature of the park, which is essentially a public recreational park that used extensively throughout the year and especially for the Notting Hill Carnival. Due to the heavy use from people and dogs, the grass just doesn't get the chance to mature and gather mosses which makes such good grassland fungi habitat The Poplar trees in the park may eventually prove to have mycorrhizal fungi associated with them but, as of yet, none were picked up on this survey. *Ganoderma australe*, a very common heartwood specialist, is prevalent on the southern most Poplar tree. Even though the use of the amenity grassland by people and their dogs is extensive, the smaller grass area did have a couple of notable (for the site) yet common species fruiting upon it, and these were *Leucoagaricus leucothites* and *Lyophyllum decastes*. A most welcome species was *Lepiota subincarnata* a species that is spreading on composted and mulched areas such as here in the shrub area at the southern entrance to the park. A native hedge of mycorrhizal shrubs/trees such as Elm, Hornbeam, Hazel and Hawthorn could be a beneficial addition to attract mycorrhizal fungi. As with other parks of a similar nature covered during this survey it is such a difficult balance to achieve when you have a people orientated green space that wants to also obtain bio-diversity within a relatively small area. Fungi need particular habitat and soil requirements. You will invariably have saprobic species appearing upon composted or mulched flowerbed or shrubberies but the mycorrhizal fungi need their partner trees and for those you need the space. The fungi recorded from Emslie Horniman Pleasance are what you would expect from a park of this nature. The species were mostly common and widespread throughout England.

18.0 **Athlone Gardens**

This is a small public area consisting of amenity grassland surrounded by trees and shrubs. Much of the existing gardens were recently designated for redevelopment of a nearby housing estate. Used extensively by dogs.

18.1 Current Status and Habitat

Athlone Gardens has no current status other than serving as a public park and recreation area. It is a small site at present, barely a hectare in my estimation. This is due to practically half of the site, the northern end, being given over to the Kensington Housing Trust for the redevelopment of the Wornington Green Estate. The remaining section of the gardens comprises a central area of amenity grassland bordered by various trees, including some Birch, which are in turn surrounded by a housing estate.

18.2 Method

The survey was carried out between April and December, therefore providing a good time period that covered the changing, environmental conditions. Athlone Gardens was grouped together during the survey with three other parks, Emslie Horniman Pleasance, Kensington Memorial Park and Little Wormwood Scrubs Park. They were together allocated one of the two visits per month during the quieter months for fungi and three in October and November, the busier fungi months. The time was shared evenly between all nine sites covered in this survey.

It was possible to cover the whole park during visits without areas in danger of being missed or rushed, so it was unnecessary to allocate compartments as such. Each of us took a separate route through the park, noting and collecting as needed.

When possible, species were named in the field, if not possible, collections were made for identification by microscope. Status and nomenclature criteria used in the accompanying spreadsheet of species recorded, was based upon recent literature listed in the bibliography at the end of the report, in particular the *Checklist of British and Irish Basidiomycota* by Legon and Henrici (2005, published by Kew Gardens). Frequency was given as in the pre-mentioned publication, as frequent, infrequent, occasional, widespread, rarely reported, rare or Red Data Listed. In some instances these entries were modified with qualifiers such as locally common. GPS readings were taken for each rare or endangered species for their exact location. Specimens of the rare and unusual species were collected, dried, written up and deposited as voucher specimens at the Fungal Herbarium, Royal Botanic Gardens, Kew.

Fig 27 - Base Map of Athlone Gardens

18.3 Area of particular note and future potential

There were no areas of the gardens that were of particular note or with future potential in their present condition with regard to a diverse population of larger fungi species.

18.4 Results and species of note

A total of two species from three records were identified from Athlone Gardens during April and December 2011. The gardens as they currently are, really do not lend themselves to larger fungi nor a diversity of such.
Other species of tree in the gardens are non-native and non-mycorrhizal such as Cherry and Plane. There were no species of note and the two species recorded; *Parasola plicitilis* and *Tubaria furfuracea* are common and widespread throughout England.

18.5 Recommendations

Particular ecological enhancements cited in management plans for other RBKC parks would be applicable to Athlone Gardens. The planting of a native hedge to run along the western or northern boundaries would be beneficial for mycorrhizal fungi. The hedge would comprise of mycorrhizal shrub/tree species such as Hornbeam, Elm, Hazel or Lime. One of the boundaries could have a shrub border or flowerbed. The compost or woodchip/mulch used would then attract associated saprobic species. Dead wood could be left in situ in appropriate; less obvious areas, this would attract fungi that are dead wood specialists. The raised beds in the garden could also be utilised by creating some space and replenishing the compost or woodchip mulch substrate to attract associated fungi. Control of dog use is crucial.

18.6 Conclusion

With only two species of larger fungi recorded from the park between April and December 2011 this indicates that currently Athlone Gardens is a very poor habitat for larger fungi. If some changes are made, such as the planting of a native hedge containing mycorrhizal shrub/trees such as Hornbeam, Elm or Hazel and/or the creation of shrub or flowerbeds, this would help attract fungi that thrive on rich substrates such as compost or mulch. This could also apply to a more creative use of the present raised beds near to the entrance of the gardens, as this would definitely encourage more fungi to the gardens. Control over the dog use in the park would also help enormously.

Holland Park & group
Including Avondale Park, Cremorne Gardens, Westfield Park and St Luke's Gardens
Fungi Survey

20/04/2011

Species list and mini report
Survey led by Andy Overall
Assisted by Keir Mottram

Daldinia concentrica
Auricularia auricula judae
Hyphodontia sambuci
Perenniporia fraxinus
Auricularia mesenterica
Stereum subtomentosum
Coprinellus micaceus
Coprinellus domesticus
Trametes versicolor
Trametes gibbosa
Daldinia concentrica
Datronia mollis
Pluteus cervinus
Ganoderma australe
Calocybe gambosa
Psathyrella spadiceogrisea
Kretzschmaria deusta
Kretzschmaria deusta
Ganoderma australe

Considering this first visit to Holland Park was six weeks or so into one of the driest springs on record it was more fruitful than what I would of expected. Nothing unusual for the time of year but a good record of Perenniporia fraxinus from a dead, decorticated Poplar in the wildlife sanctuary.
Andy Overall

Holland Park & group
Including Avondale Park, Cremorne Gardens, Westfield Park and St Luke's Gardens
Fungi Survey
15/06/2011

Species list and mini report
Survey led by Andy Overall
Assisted by Keir Mottram

Holland Park

Coprinellus micaceus
Conocybe rickenii
Psilocybe crobula
Conocybe tenera
Coprinellus impatiens
Xylaria polymorpha
Coprinellus disseminatus
Agaricus bisporus
Parasola plicatilis
Panaeolina foenisecii
Ganoderma australe
Coprinellus lagopus
Auricularia auricula judae
Coprinellus impatiens
Coprinellus disseminatus
Phellinus laevigatum
Nectria cinnabarina
Lycogala terestre
Oxyporus populinus

Chondrostereum purpureum
Ganoderma resinaceum

This was a fairly good visit to Holland Park especially with records such as *Psilocybe crobula.* However no species records were forthcoming from the other parks in this group.

Andy Overall

Holland Park & group
Including Avondale Park, Cremorne Gardens, St Lukes Gardens & Westfield Park,
Fungi Survey
11/07/2011

Species list and mini report
Survey led by Andy Overall
Assisted by Keir Mottram

Holland Park

Panaeolus cinctulus
Russula grisea
Russula risigillina
Xercomus engelii
Parasola plicatilis
Russula subfoetens
Tricholomella constricta
Xerocomus cisalpinus
Russula grisea
Bolbitius titubans
Rickinella fibula
Amanita rubescens
Russula sp
Auricularia auricula judae
Auricularia auricula judae
Lycogala terestre (slime mould)
Agaricus augustus
Marasmiellus vailantii
Psathyrella candolleana
Coprinellus micaceus

Simocybe sumptuosus
Volvariella gloicephala
Bolbitius titubans
Agaricus xanthodermus
Russula parazurea
Hapalopilus nidulans
Auricularia auricula judae
Paxillus involutus
Coprinellus domesticus

This visit revealed the true potential of the fungi in Holland Park. The discovery of the very rare *Tricholomella constricta* fruiting in two or three clusters, in bare soil, beneath the wooden fence bordering the West Lawn with the footpath, was the best record of the survey to date. This will stand as the 1st record for Middlesex. Other good records were that of Simocybe sumptuosa and Hapalopilus nidulans both dead wood specialists. The first mycorrhizal species of the survey began to make themselves apparent with records of Russula and Boletus species scattered about the park. 25 species were recorded in total. The other parks in this group didn't fair so well, with nothing new to report since the last visit to them.
Andy Overall

Holland Park & group
Including Avondale Park, & Kensington Memorial Park,
Fungi Survey
11/08/2011

Species list and mini report
Survey led by Andy Overall
Assisted by Keir Mottram

Holland Park

Parasola plicatilis
Panaeolina foenisecii
Russula atropurpurea
Russula praetervisa
Oxyporus populinus
Hapalopilus nidulans
Daldinia concentrica
Rigidiformis ulmarius
Xyalria polymorpha
Rhodotus palmatus
Rigidiporus ulmarius
Coprinopsis micaceus
Gymnopus dryophilus
Scleroderma verrucosum
Lycoperdon pratense
Agrocybe putaminum

Conocybe tenera
Agaricus arvensis
Ramaria curta

This was a rather disappointing survey given the rather favorable conditions over the previous days. My feeling was that, macro fungi were at an in-between stage of fruiting, having fruited quite vigorously over previous weeks. However, interesting new records were added to the database such as Ramaria sp & Agrocybe putaminum. Very little was seen or recorded at other sites other than Coprinellus disseminatus on buried dead wood at Avondale Gardens.
Andy Overall

Holland Park & group
Including Avondale Park, & Kensington Memorial Park,
Fungi Survey
13/09/2011

Species list and mini report
Survey led by Andy Overall
Assisted by Keir Mottram

Holland Park

Ramaria curta
Agaricus arvensis
Agaricus arvensis
Panaeolina foenisecii
Russula sororia
Chlorophyllum rhacodes
Parasola plicatilis
Pholiotina arrenhii
Conocybe tenera
Marasmius oreades
Psathyrella candolleana
Russula subfoetens
Clavulinopsis helvola
Lycoperdon molle
Russula ochroleuca

Amanita excelsa
Gymnopus dryophilus
Scleroderma bovista
Laccaria laccata
Russula ionochlora
Russula grisea
Xercomellus subtomentosus
Laccaria proxima
Agaricus augustus
Lactarius blennius
Conocybe apala
Amanita muscaria
Xercomellus engelii
Lactarius hepaticus
Bolbitius titubans
Lycoperdon pyriforme
Mycena pura
Xerula radicata
Lenzites ?
Lycoperdon perlatum
Trametes versicolor
Chlorophyllum oliverii
Hapalopilus nidulans
Pleurotus dryinus
Psathyrella piluliformis
Coprinopsis micaceus
Meripilus giganteus

Rhodotus palmatus
Crepidotus mollis
Steccherinum ochraceum
Peniophora lycii
Coprinellus micaceus
Pluteus salicinus
Rhodocybe gemina
Laccaria laccata
Agaricus subperonotus

Following almost perfect conditions for fungi over previous weeks this was a quite fruitful visit to Holland Park. It was noted that more mycorrhizal species were evident, as should be the case at this stage of the year. There was a baffler from this survey,a Ramaria species that turned up during the last visit was confirmed *as Ramaria curta*. Notable other species for this visit were the infrequent, once red data listed species, *Rhodotus gemina* and again infrequent, *Agaricus langei* fruiting right there in the car park, noticed just as I was driving out of the car park.

Holland Park & group
Including Avondale Park, & Kensington Memorial Park,
Fungi Survey
07/10/2011

Species list and mini report
Survey led by Andy Overall
Assisted by Keir Mottram

Holland Park

Hypholoma fasciculare
Russula plumbeobrunnea
Meripilus giganteus
Lycoperdon perlatum
Inonotus cuticularis
Pholiota aurivella
Pholiota squarrosa
Amanita muscaria
Meripilus giganteus
Rhodotus palmatus
Lycoperdon excipuliforme
Leratiomyces ceres
Psathyrella candolleana
Auricularia mesenterica
Psathyrella candolleana
Rhodocybe gemina
Pleurotus dryinus

With windy conditions and little rain preceding this visit, the number of macro fungi recorded on this occasion had dropped considerably since the last couple of visits. Some new species were however added to the records most notably Inonotus cuticularis on fallen Beech in the Lord Holland Enclosure. There were also some nice examples of Lycoperdon excipuliforme in the Wildlife Garden plus Pholiota aurivella and Pleurotus dryinus emerging from the same fallen Beech as the Inonotus. Both Avondale and & Kensington Memorial failed to provide any macro fungi.

Andy Overall

Holland Park & group
Including Cremorne Gardens, St Luke's gardens, Westfield Park & Avondale Park,
Fungi Survey
17/11/2011

Species list and mini report
Survey led by Andy Overall
Assisted by Keir Mottram

Holland Park

Lepista flaccida
Mycena pura
Chlorophyllum brunneum
Pluteus salicinus
Rhodocollybia butyracea
Kuherneromyces mutablis
Hypholoma fasciculare
Coprinellus micaceus
Psathyrella candolleana
Pluteus cervinus
Mycena haematopus
Coprinopsis domesticus
Psathyrella corrugis
Xylaria hypoxylon
Armillaria mellea
Mycena crocata
Lycoperdon perlatum
Psathyrella piluliformis
Clitocybe nebularis
Rhodocollybia butyracea
Hebeloma crustuliniforme
Lepista flaccida

Psathyrella candolleana
Lepista irina *
Armillaria cepistipes
Agrocybe cylindracea

•

Westfield Park

Clitocybe agrestris
Melanoleuca polioleuca f. pusilla *
Coprinellus disseminatus
Coprinopsis domesticus

Cremorne Gardens

Parasola plicatilis
Coprinellus micaceus
Entoloma sp
Conocybe sp

St Lukes

Inonotus hispidus

Coprinellus micaceus
Mycena flavoalba
Mycena leptocephalus
Tubaria conspersa
Stropharia caerulea

Trametes versicolor
Panaeolus ater

Avondale Park

Tubaria conspersa
Conocybe arrhenia

This turned out to be a very good visit to this cluster of parks. The first batch of records from St Lukes highlighted by Stropharia caerulea which is not uncommon but a nice record. From Holland Park the highlight was a rare record of *Lepista irina* the first for Middlesex and the most unlikely record of *Melanoleuca oreina* from the kid's playground in Westfield Park, this was the first record of this species from Middlesex and only the fourteenth record for the UK.

Andy Overall

Holland Park & group
Including Cremorne Gardens, St Luke's gardens & Westfield Park
Fungi Survey
13/12/2011

Species list and mini report
Survey led by Andy Overall
Assisted by Keir Mottram

Holland Park

Agaricus silvaticus
Chlorophyllum brunneum
Coprinellus micaceus
Pluteus cervinus
Pleurotus ostreatus
Hypholoma fasciculare
Trametes versicolor
Kuherneromyces mutablis
Agrocybe cylindracea
Lycoperdon perlatum
Mycena crocata
Chlorophyllum rhacodes
Mycena vitilis
Lycoperdon pyriforme
Mycena galericulata
Mycena pura
Rhodocollybia butyracea
Lepista nuda
Rhodotus palmatus
Pluteus cervinus
Coprinellus domesticus
Auricularia auricula judae
Pleurotus dryinus

Clitocybe nebularis
Agaricus xanthodermus
Pleurotus ostreatus
Psathyrella corrugis
Chlorophyllum rhacodes
Chondrostereum purpureum
Flammulina velutipes
Chalciporus piperatus

Westfield Park

Chlorophyllum brunneum
Chondrostereum purpureum
Coprinellus micaceus
Villeminia comedens

Cremorne Gardens

Armillaria mellea
Nectria cinnabarina

St Lukes

Stropharia caerulea
Melanoleuca cognata

Lepista nuda
Leratioomyces ceres

This was a fitting end to the survey, with a good number of species from Holland Park, given the time of year. The other smaller parks also came up with a few species, not least St Lukes which struggled to produce any large fungi throughout the year. Upon this visit Melanoleuca cognata var. cognata was among the handful of species recorded. Not rare but still a nice record.

Andy Overall

Little Wormwood Scrubs & group
Including, Athlone Gardens, Emsilie Horniman Garden & Kensington Memorial Park
Fungi Survey
28/04/-31/05-21/06/2011

Species list and mini report
Survey led by Andy Overall
Assisted by Keir Mottram

Little Wormwood Scrubs

Ganoderma resinaceum

Schizophyllum amplum

Coriolopsis gallica

Ganoderma australe

Emsilie Horniman Garden

Ganoderma australe

As the first two visits to this group of parks was during one of the hottest and driest spring periods on record these conditions had taken effect on the fungi we may have encountered during the months of April & May, should we have had more rain. The stand out species from this particularly dry period is that of *Schizophyllum amplum* and *Coriolopsis gallica* both rare dead wood specialists. The former is actually a red data species that specializes on small dead branches of Poplar and the latter is an uncommon species found on dead Willow or Ash. Up until the 21st June, nothing had yet been recorded from either Kensington Memorial Park or Athlone Gardens, partly due to the dry conditions and the relatively poor habitat these parks offer to the presence of larger fungi.
Andy Overall

Little Wormwood Scrubs
Including, Avondale Park, Emsilie Horniman Garden & Kensington Memorial Park
Fungi Survey
21/06/2011

Species list and mini report
Survey led by Andy Overall
Assisted by Keir Mottram

Little Wormwood Scrubs

Panaeolus ater
Conocybe rickenii
Parasola auricomus
Cyathus olla
Pluteus cinereofusca
Lepista nuda
Panaeolus cinctulus
Marasmius oreades
Marasmius oreades
Stereum hirsutum
Coprinopsis domesticus
Coprinopsis domesticus
Bolbitius titubans
Trametes versicolor
Crepidotus variabilis
Parasola leiocephalus
Auricularia auricula judae
Conocybe tenera
Panaeolus ater

Emsilie Horniman Garden

Psathyrella corrugis
Parasola auricomus

Kensington Memorial Park

Agrocybe putaminum

Psahtyrella corrugis
Agaricus arvensis
Psathyrella mycorrhiza

Avondale Park

Psathyrella corrugis
Parasola leiocephalus
Conocybe brachypodia
Agaricus bisporus
Agrocybe putaminum

Preceding a week of wet weather this was by far the most rewarding and fruitful visit to Little Wormwood Scrubs, Avondale Park, Emsilie Horniman Gardens and Kensington Memorial Park. Avondale Park & Kensington Memorial chalked up their first species records of the survey. Some notable species from LWS were *Panaeolus cinctulus* and the gregarious *Pluteus cinereofuscus* and from the other smaller parks *Agrocybe putaminum* and *Agaricus arvensis* from KMP with *Agaricus bisporus* and *Agrocybe putaminum* from Avondale. Most of these records, were recorded from the shrub/flower bed borders where the soil has been enriched and mixed with either manure or woodchip.
Andy Overall

Little Wormwood Scrubs
Including, Avondale Gardens, Emsilie Horniman Garden, Kensington Memorial Park, Westfield Park, St Luke's, Cremorne Gardens, Athlone Gardens & Holland Park (partially)
Fungi Survey
26/07/2011

Species list and mini report
Survey led by Andy Overall
Assisted by Keir Mottram

Little Wormwood Scrubs

Parasola leiocephala
Coprinellus radians
Coprinellus disseminatus
Coprinellus micaceus
Coprinellus micaceus
Leccinum duriusculum
Psathyrella candolleana

Avondale

Agaricus comtulus

Cremorne Gardens

Panaeolus fimicola

Westfield Park

Auricularia auricula judae
Panaeolus fimicola

Holland Park

Inocybe rimosa

Russula risigillina
Russula ionochlora
Russula subfoetens
Tricholomella constricta

This was a rather disappointing visit to this group of parks. Following a week of dry weather that followed on from a week of rain I expected a lot more. The visit to Holland Park was only brief and was not scheduled but due to the poor show of fungi at the other parks I felt it necessary. Leccinum duriusculum was a good record from Little Wormwood Scrubs as was the repeat record of Tricholomella constricta from Holland Park but little else was noteworthy. Nothing was recorded from, Athlone Gardens, St Luke's Gardens or Kensington Memorial Park during these visits, highlighting again the poor quality of these parks with regard to habitat for macro fungi.

Andy Overall

Little Wormwood Scrubs
Including, Emsilie Horniman Garden, Kensington Memorial Park, Westfield Park, St Luke's, Cremorne Gardens, Athlone Gardens & Holland Park (partially)
Fungi Survey
22/08/2011

Species list and mini report
Survey led by Andy Overall
Assisted by Keir Mottram

Little Wormwood Scrubs

Conocybe tenera
Inocybe perlata
Bolbitius titubans
Leccinum duriusculum
Daldinia concentrica
Pluteus ephebeus

Kensington Memorial Park

Marasmius oreades
Parasola plicitilis
Laetiporus sulphureus
Psathyrella corrugis

Holland Park

Ganoderma resinaceum
Rigidiformis ulmarius
Russula ionochlora
Psathyrella sp
Agaricus augustus
Agaricus campestris
Panaeolina foenisecii

Xerocomellus engelii
Hygrocybe conica
Russula atropurpurea
Russula parazurea
Tricholomella constricta

The above sites were the only three of the seven sites visited on this date to actually turn up any macro fungi. Emsilie Horniman, Westfield Park, St Luke's and Cremorne Gardens revealed no fungi at all. Of the other three sites, some good records were made such as the rarely recorded *Inocybe perlata* and more of the occasional *Leccinum duriusculum* from Little Wormwood Scrubs. From Holland Park, there were more of the rare Tricholomella constricta and our first Waxcap, *Hygrocybe conica*.

Andy Overall

Little Wormwood Scrubs
Including, Emsilie Horniman Garden, Kensington Memorial Park, Westfield Park, St Luke's, Cremorne Gardens, Athlone Gardens, Avondale & Holland Park (partially)
Fungi Survey
29/09/2011

Species list and mini report
Survey led by Andy Overall
Assisted by Keir Mottram

Little Wormwood Scrubs

Hebeloma sacchariolens
Inocybe salicis
Laccaria laccata
Bjerkandera adusta
Leccinum duriusculum
Rhodocybe gemina
Lactarius circellatus

Kensington Memorial Park
Chlorophyllum rhacodes

Holland Park

Clitocybe rivulosa
Rickinella swartzii
Clavulinopsis helvola
Volvariella gloicephala
Laccaria laccata
Chalciporus piperatus
Amanita muscaria

Lactarius glycioisimus
Amanita crocea
Paxillus involutus
Russula plumbeobrunnea

Avondale

Agaricus bitorquis
Melanoleuca polioleuca

The above sites were the only four of the seven sites visited on this date to actually turn up any macro fungi. Emsilie Horniman, Westfield Park, St Luke's, Athlone and Cremorne Gardens revealed no fungi at all. Of the other four sites, some good records were made such as the uncommon *Rhodocybe gemina* and more of the occasional *Leccinum duriusculum* from Little Wormwood Scrubs. From Holland Park, Amanita *crocea* was definitely the stand out species. A newly described species of Russula, *Russula plumbeobrunnea,* believed to be common in Southern England was also recorded.

Andy Overall

Little Wormwood Scrubs
Including, Emsilie Horniman Garden, Kensington Memorial Park, Westfield Park, St Luke's, Cremorne Gardens, Athlone Gardens, Avondale Park.
Fungi Survey
17/10/2011

Species list and mini report
Survey led by Andy Overall
Assisted by Keir Mottram

Little Wormwood Scrubs

Leccinum duriusculum
Rhodocybe gemina
Trametes gibbosa

Following a two to three week period of very little rain and windy, dry conditions, macro fungi were very thin on the ground on these visits. The only site that had any fungi at all was Little Wormwood Scrubs. Apart from the common polypore, Trametes gibbosa, both Leccinum duriusculum and Rhodocybe gemina were record during previous visits.

Andy Overall

Little Wormwood Scrubs
Including, Emsilie Horniman Garden, Kensington Memorial Park, Athlone Gardens and Avondale Park.
Fungi Survey
10/11/2011

Species list and mini report
Survey led by Andy Overall
Assisted by Keir Mottram

Little Wormwood Scrubs

Hygrophoropsis rufa
Pholiota gummosa
Tubaria furfuracea
Panaeolus ater
Conocybe vexans
Coprinellus micaceus
Entoloma sericium
Galerina vittiformis
Hebeloma sacchariolens
Panaeolus fimicola
Parasola plicitillis
Conocybe apala
Bolbitius titubans
Coprinellus flocculosus
Conocybe tenera
Lepiota nuda
Leucoagaricus leucothites

Psathyrella corrugis
Mycena leptocephala

Athlone Gardens

Parasola plicitillis
Tubaria furfuracea

Emsilie Horniman Gardens

Lyophyllum decastes
Parasola plicitillis
Leucoagaricus leucothites
Lepiota subincarnata

Kensington Memorial Park

Inocybe cincinnata var. major
Hebeloam mesophaeum
Lepista nuda
Paxillus involutus
Mycena olivaceamarginata
Parasola plicitilis
Hypholoma fasciculare
Psilocybe cyanescens
Leratiomyces ceres

Chlorophyllum brunneum

Highlights for this set of visits were *Lepiota subincarnata* from Emslie Horniman and the first two species from Athlone Gardens.

Andy Overall

Little Wormwood Scrubs
Including, Emsilie Horniman Garden, Kensington Memorial Park, Athlone Gardens and Avondale Park.
Fungi Survey
06/12/2011

Species list and mini report
Survey led by Andy Overall
Assisted by Keir Mottram

Little Wormwood Scrubs

Lepista saeva
Psathyrella corrugis

Mycena leptocephala
Lepista saeva
Lepisat nuda
Lepisat nuda
Stereum gausapatum
Mycena flavoalba
Lepista sordida

Clitocybe brumalis

Athlone Gardens

Parasola plicitillis

Emsilie Horniman Gardens

Parasola plicitillis

Kensington Memorial Park

Chlorophyllum rhacodes
Chlorophyllum rhacodes
Chlorophyllum rhacodes
Hebeloma mesophaeum
Lepista nuda
Lepista saeva
Hypholoma fasciculare

The recent hard frosts leading up to this series of visits had inhibited fungal growth. However, some of the species expected at this time of year were evident such as Lepista nuda & Lepista saeva.

Andy Overall

Appendix 2

Holland Park Fungus Foray 24th September 2005 Species List

Naming as in Phillips or Marcel Bon
Recorder: Peter James

Species Name	Location
Lepiota cristata	Common in nettle patches
Lepiota nosea	Nettle patches
Melanophyllum echinatum*	Nettle patch with L. cristata
Marasmius androsaceus	On buried wood by pathside
Russula soraria	Under Quercus, mycorrhizal
Pluteus cerrinus	On wood by pathside
Conocybe ochracea	Grassy verge
Agaricus macrospora	Edge of woodland
Lacrymaria velutina	Pathside
Coprinus disseminatus	Buried tree stump near Kyoto Garden
Coprinus plicatilis	Grassy edge near Kyoto Garden
Boletus pruinatus	Under Quercus, mycorrhizal
Meripilus giganteus	On rotting stump near Kyoto Garden
Ganoderma adspersum	On dead tree near restaurant
Piptoporus betulinus	On mature Betula
Phellinus ferreus	With C. desseminatus, Kyoto Garden entrance
Coriolis versicolor	Rotting branch of Fagus
Auricularia auricula-judae	Rotting wood
Hypoxylon fragiforme	Stump of Fagus

* Specimen sent to Kew for herbarium lawn

Conditions: Rain 3 days before after prolonged drought

Appendix 3

Bibliography

Antonín, V. & Noordeloos, M.E. (2004). **A monograph of the genera Hemimycena. Delicatula, Fayodia, Gamundia, Myxomphalia, Resinomycena, Rickenella and Xeromphalina (Tribus Mycenae sensu Singer, Mycena excluded) in Europe. IHW Verlag. 279 pp.**

Bas, C., Kuyper, Th.W., Noordeloos, M.E. & Vellinga, E.C. (eds) **(1988). Flora Agaricina Neerlandica 1. Entolomataceae. Rotterdam: Balkema. 182 pp.**

Bas, C., Kuyper, Th.W., Noordeloos, M.E. & Vellinga, E.C. (eds) **(1990). Flora Agaricina Neerlandica 2. Pleurotaceae, Pluteaceae, and Tricholomataceae (1). Rotterdam: Balkema. 137 pp.**

Bas, C., Kuyper, Th.W. Noordeloos, M.E. & Vellinga, E.C. (eds) **(1995). Flora Agaricina Neerlandica 3. Tricholomataceae (2). Rotterdam: Balkema. 183 pp.**

Bas, C., Kuyper, Th.W. Noordeloos, M.E. & Vellinga, E.C. (eds) **(1999). Flora Agaricina Neerlandica 4. Strophariaceae, Tricholomataceae (3). Rotterdam: Balkema. 191 pp.**

Noordeloos, M.E., Kuyper, Th.W. & Vellinga, E.C. (eds) **(2001). Flora Agaricina Neerlandica 5. Agaricaceae. Rotterdam: Balkema. 169 pp.**

Noordeloos, M.E., Kuyper, Th.W. & Vellinga, E.C. (Eds) **(2005). Flora Agaricina Neerlandica 6.Coprinaceae & Bolbitaceae. Taylor & Francis. 227 pp.**

Bernicchia A, **(2005). Fungi Europaei, Volume 10: Polyporaceae s.l. – Edizioni Candusso - 808 pp,**

Boertmann, D. **(1995). The genus Hygrocybe. Fungi of Northern Europe 1. 184 pp.**

Bon, M. **(1987). The Mushrooms and Toadstools of Britain and North-western Europe. Hodder & Stoughton. 352 pp.**

Breitenbach, J. & Kränzlin, **F. (1984). Fungi of Switzerland 1. Ascomycetes, Switzerland: Mykologia Luzern. 310pp.**

Breitenbach, J. & Kränzlin, **F. (1986). Fungi of Switzerland 2. Non gilled fungi, Heterobasidiomycetes, Aphyllophorales, Gasteromycetes. Switzerland: Mykologia Luzern. 412 pp.**

Breitenbach, J. & Kränzlin, F. **(1991). Fungi of Switzerland 3. Boletes and agarics, 1st part. Switzerland: Mykologia Luzern. 361 pp.**
Breitenbach, J. & Kränzlin, F. **(1995). Fungi of Switzerland 4. Agarics, 2nd part. Switzerland: Mykologia Luzern. 368 pp.**
Breitenbach, J. & Kränzlin, F. **(2000). Fungi of Switzerland 5. Agarics, 3rd Part. Switzerland: Mykologia Luzern. 338 pp.**
Kränzlin, F**. (2005). Fungi of Switzerland 6. Russulaceae - Russula & Lactarius, Switzerland: Mykologia Luzern. 317 pp.**
Courtecuisse, R. & Duhem, B. **1995. Mushroom & Toadstools of Britain and Europe. HarperCollins**.

Galli, R. **(1996). Le Russule. Milan: Edinatura. 480 pp.**

Heilmann-Clausen, J., Verbeken, A., & Vesterholt, J. (1998). **The genus Lactarius. Fungi of Northern Europe 2. 287 pp.**

Holec, J. **(2001). The Genus Pholiota in central and western Europe. Libri Botanici 20: 1–220.**

Kibby, G. **(2000-2008). Field Mycology Vols. 1-9 Published by Elsevier for the British Mycological Society. PO Box 211, 1000 AE Amsterdam, The Netherlands. An essential resource for articles and photographs of British fungi.**

Kibby, G. **(2008). The Genus Russula in Great Britain. 4th Ed. Digital Science. 109pp.**

Knudsen, H. and Vesterholt, J. **2008. Funga Nordica. Nordsvamp. 968 pp. An essential work by 41 mycologists from 16 European countries**

London Ecology Unit, Robinson, P. & Archer, J **1994**, **Ecological Survey of The Royal Borough of Kensington & Chelsea**

Legon, N.W. & Henrici, A. (2005)
Checklist of the British and Irish Basidiomycota. Published by Kew Gardens. The most up-to-date and essential reference to the British species and their current names.

Noordeloos M. E. **(2011) Strophariaceae. Fungi Europaei. Edizioni Candusso 647 pp.**

Outen, Alan R. and Cullington, Penny. **2009. Keys to the British Species of Inocybe – Oct 2010 update edition. 72 pp.**

Pegler D N , Laessoe T, Spooner B M – **1995 British Puffballs, Earthstars & Stinkhorns — RBGK**

Phillips R, - **(2006) – Mushrooms – Macmillan 384pp**

Phillips, R. **(1981). Mushrooms and other fungi of Great Britain & Europe. London: Pan Books. 288 pp.**

Rayner, R.W. **(2005) British Fungus Flora. Agarics and Boleti 9. Lactarius. Edinburgh: Royal Botanic Garden. 203 pp.**

Ryvarden, L. and Gilbertson R.L. **(1993) European Polypores. Fungiflora 387 pp.**

Ryvarden, L. and Gilbertson R.L. **(1993) European Polypores. Fungiflora 387 pp.**

Sanchez, Luis. **(2008) Fungi Europaei. Agaricus l. Allopsalliota. Edizioni Candusso. 824 pp.**

Sarnari, M. **(1998). Monografia Illustrata del Genere Russula in Europe (Tomo Primo). Associazione Micologica Bresadola. 799 pp.**

Sarnari, M. **(2005). Monografia Illustrata del Genere Russula in Europe (Tomo Secundo). Associazione Micologica Bresadola. 807–1568 - Via A. Volta, 46 –38100 TRENTO, ITALY.**

Vesterholt, J. **(2005). The genus Hebeloma. Fungi of Northern Europe 3. 146 pp.**

Watling, R. & Hills, A.E. **(2005). British Fungus Flora. Agarics and Boleti 1. Boletes and their allies. Edinburgh: Royal**

Watling, R. & Gregory, N.M. **(1989). British Fungus Flora. Agarics and Boleti 6. Crepidotaceae, Pleurotaceae and other pleurotoid agarics. Edinburgh: Royal Botanic Garden. 157 pp.**

Watling, R., Gregory, N.M. & Orton, P.D. **(1993). British Fungus Flora. Agarics and Boleti 7. Cortinariaceae p.p. Galerina, Gymnopilus, Leucocortinarius, Phaeocollybia, Phaeogalera, Phaeolepiota, Phaeomarasmius, Pleuroflammula, Rozites and Stagnicola. Edinburgh: Royal Botanic Garden. 131 pp.**

Watling, R. & Turnbull, E. **(1998). British Fungus Flora. Agarics and Boleti 8. Cantharellaceae, Gomphaceae and Amyloid-Spored and Xeruloid Members of Tricholomataceae (excl. Mycena). Edinburgh: Royal Botanic Garden. 189 pp.**

Whitley, A. **(2009) Trees Of Holland Park (online database)**

Will, S. - London Conservation Services **(2003) Borough Ecological Survey**

Wiltshire, E. - Ecology Service (**1999). The Flora of Holland Park, Native, Naturlised and Introduced Vascular Plants and Bryophytes**

Appendix 3

Acknowledgments

I would like to take this opportunity to thank a few people whose help throughout the survey was of great importance. Huge thanks have to go to Keir Mottram without whose help I would have really struggled to complete the survey, invaluable assistance. And also to Jen and Heather, a big thanks for there eyes and energy.

Thanks to the staff at Holland Park especially for their help in accessing certain areas of the park.

Thanks to Martyn Ainsworth and Brian Spooner for putting up with and taking care of my voucher specimens at the Kew Fungal Herbarium.

Big thanks to Heather O'Brien and Mike Taylor for their time and expertise in reading over and help in ironing out the report.

To Mark Spencer, Botanist at the Natural History Museum

And a big thanks to Saskia Laing and all those involved with the ecology dept of the Royal Borough of Kensington & Chelsea who made this survey possible.

Andy Overall
Field Mycologist

Andy Overall
Field Mycologist

Flat 2
39 North End Road
Golders Green
London NW11 7RJ
www.fungitobewith.org
mush.room@fungitobewith.org

Royal Borough of Kensington and Chelsea
Main Parks Fungi Survey 2011